



Mitigation Framework Leadership Group (MitFLG) Progress Report: National Initiative to Advance Building Codes

December 2022

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Introduction

Background

Extreme weather events threaten millions of homes each year, with [disproportionate impacts](#) on underserved communities. Every dollar invested in building code adoption [provides eleven times more](#) in savings by reducing damage and helping communities recover more quickly. Additionally, modernized energy codes can save households an average of [\\$162 each year](#) on utility bills, which is especially significant in reducing energy burdens for low-income households. The National Initiative to Advance Building Codes (NIABC) is a White House effort to help communities adopt the latest, modern consensus building and energy codes and standards; improve climate resilience; and reduce energy costs. Led by the Building Codes Task Force (BCTF) of the interagency Mitigation Framework Leadership Group (MitFLG), the NIABC promotes sustainable changes that are designed to protect communities regardless of social, economic, or regional challenges. These actions can enable communities to be more resilient to natural hazards by addressing the impacts of climate change, lowering utility bills, and prioritizing underserved communities.

Funding Opportunities to Advance Building Codes

The [Bipartisan Infrastructure Law](#) (Infrastructure Investment and Jobs Act) includes \$550 billion in new [federal investment](#) in America’s infrastructure and built environment. The [Inflation Reduction Act](#) has invested \$370 billion in investments to lower energy costs for families and small businesses, accelerate private investment in clean energy solutions, strengthen supply chains, and create good-paying jobs. Examples of additional funding opportunities that advance NIABC priorities include: [Building Resilient Infrastructure and Communities](#), [Resilient and Efficient Codes Implementation Program](#), [Assistance for Latest and Zero Building Energy Code Adoption](#), [Community Wildfire Defense Grant](#), and [Community Development Block Grant – Disaster Recovery](#).

NIABC Mission and Priorities

As directed by the White House’s National Climate Task Force, the MitFLG organized the BCTF to implement the NIABC. The White House also published a [Fact Sheet](#) on the [First-Ever Federal Building Performance Standard](#) on December 7, 2022, that complements the NIABC’s intent to lower energy costs, save taxpayer dollars, reduce emissions and improve resiliency.

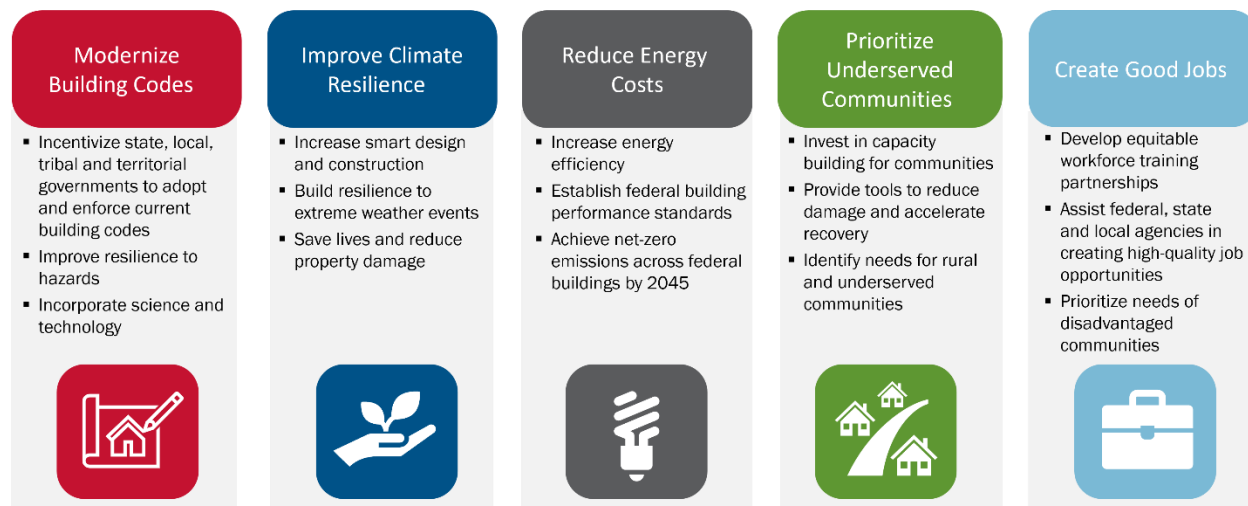


Figure 1. NIABC Priorities

Based on the focus areas described in the [June 1, 2022 Fact Sheet](#), the BCTF identified five key priorities, shown in Figure 1, to achieve the NIABC mission. The icons above (Figure 1) are used to illustrate where federal programs advance NIABC priorities. While all programs may be linked to all five priorities above, for the purposes of this report, relevant priorities have been highlighted to demonstrate each program’s strengths and areas for renewed focus for 2023.

The BCTF is addressing the key priorities through a wide range of activities. Together, these efforts are aimed at ensuring federally funded or financed new or substantially rehabilitated buildings and residential properties are constructed to be resilient to the increased frequency and intensity of climate-induced extreme weather events. NIABC activities that address the priorities are referenced in Figure 2.

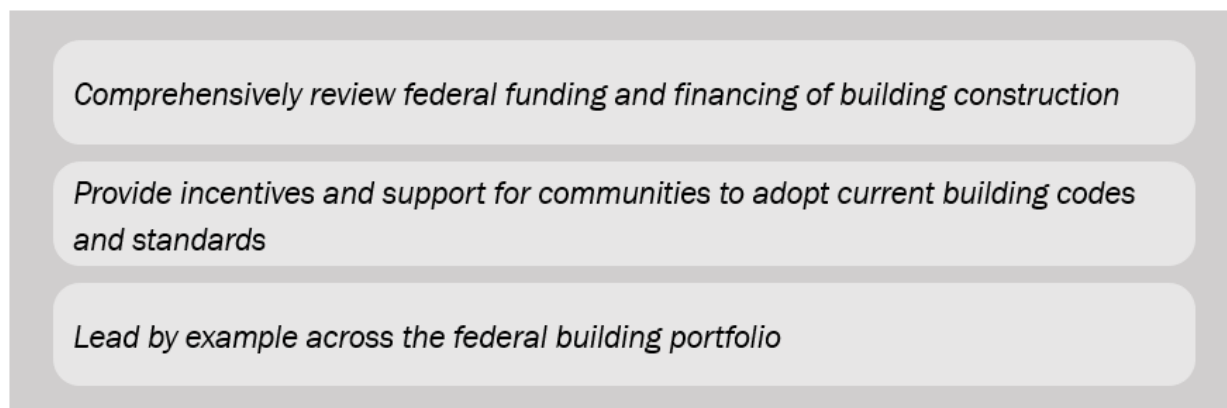


Figure 2. Key NIABC Activities

NIABC Accomplishments

In early 2022, the National Climate Task Force approved the new National Initiative to Advance Building Codes to accelerate the adoption of modern building codes to improve resiliency, create good-paying jobs, and lower energy bills. The NIABC was officially launched on June 1, 2022, after the release of the White House [NIABC Fact Sheet](#), which expanded on the NIABC efforts and federal priorities. Since June 2022, the MitFLG has made progress toward addressing NIABC priorities and furthered its mission through various means, including:

- ✓ **Forming the BCTF:** MitFLG reorganized its work groups and established the Building Codes Task Force (BCTF) to lead NIABC efforts.
- ✓ **BCTF Subgroups:** The BCTF created four subgroups: (1) Energy Efficiency, (2) Building Codes Community of Practice, (3) Workforce Development & Job Quality, and (4) Financing & Life Cycle Costing. These subgroups serve to advance NIABC priorities and provide subject matter expertise and recommendations to the BCTF as federal agencies continue NIABC implementation in 2023.
- ✓ **NIABC NOFO Language:** In Fiscal Year (FY) 2022, the US Department of Agriculture’s (USDA) Forest Service released a Notice of Funding Opportunity (NOFO) for the Community Wildfire Defense Grant (CWDG) Program. This NOFO explicitly mentions the NIABC, stating that “communities who develop and adopt modern National Fire Protection Association (NFPA), International Code Council (ICC), or similar codes will receive access to funding reserved for communities with code requirements for any future CWDG applications.”
- ✓ **Draft Federal Implementation Plans:** Fourteen federal agencies have committed to support the NIABC implementation. Eight agencies are in the process of completing their implementation plans for meeting NIABC priorities within their own agencies and through their programs.

Building Codes Task Force Activities

NIABC implementation consists of a series of milestones (Figure 3). The BCTF first conducted a landscape analysis to inform the development of federal agency implementation plans. Through consultations with federal partners, each agency is finalizing an implementation plan. BCTF is supported by subgroups that are also providing technical support for NIABC implementation. Agencies will continue exploring how to amend programs and guidance, as needed, to address NIABC priorities.

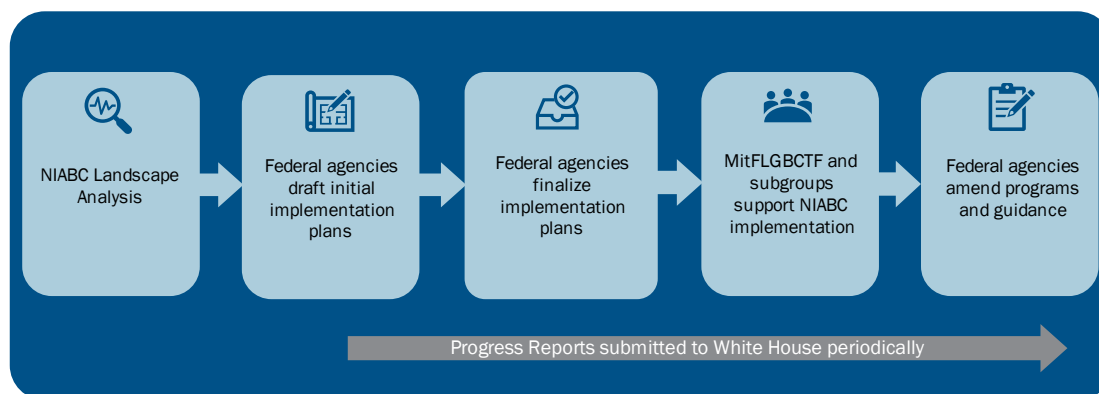


Figure 3. NIABC Milestones

Landscape Analysis

The BCTF conducted a landscape analysis to collect data from federal agencies through supplemental feedback forms and one-on-one data validation meetings. The BCTF then compiled a list of federal programs that (1) fund new construction, rebuilding, or substantial rehabilitation of homes and buildings, (2) finance new construction, rebuilding, or substantial rehabilitation of homes and buildings, and (3) fund technical assistance on code adoption, enforcement, codes and standards development and modernization of building codes.

A series of six workshops and listening sessions held from July through October 2022 also gathered information from federal agencies; state, local, tribal and territorial (SLTT) governments; academia and industry associations; volunteer organizations active in disaster (VOADs) and faith-based organizations (FBOs); critical private, non-profits (PNPs) who provide essential education and social services to the community that must continue during disaster recovery; and a Tribal Nations listening session (in addition to the SLTT workshop). Participants discussed their experiences with the federal government related to building codes and identified gaps and opportunities that may impact the adoption, administration and enforcement of modern building codes and standards. Further information on research and development (R&D) to modernize building codes and standards and

support codes and standards development was also gathered. The results of the landscape analysis are now being used to inform federal implementation of the NIABC.

Federal Agencies Implementation Status

Fourteen federal agencies (Figure 4) are supporting the NIABC implementation. Eight agencies have completed initial drafts of their agency NIABC implementation plans. Each agency plan contains activities or tactics that address NIABC priorities. Agency plans are informed by the NIABC landscape analysis and incorporate opportunities addressed by BCTF subgroups on areas such as building code best practices, energy efficiency, financing and life cycle costing, and workforce development and job quality. Commitments to action in agency implementation plans are under development and will be built out in 2023.

While many agencies and programs are still in the drafting phase of developing NIABC implementation plans, progress on this effort continues. Agencies have provided interim draft implementation plans that will be shared with the White House Council on Environmental Quality for awareness. Agencies will continue to identify commitments and regulatory changes required to finalize implementation plans in 2023.



Figure 4. BCTF Agency Partners

Building Codes Task Force Subgroups

To ensure subject matter expertise informs the implementation of the NIABC priorities, the BCTF formed four subgroups: (1) Energy Efficiency, (2) Building Codes Community of Practice, (3) Workforce Development & Job Quality, and (4) Financing & Life Cycle Costing. The subgroups accomplished several tasks during 2022, including drafting recommendations for the BCTF to use in agency implementation plans and developing informational materials to support NIABC efforts. Details on the recommendations and informational materials are included in the Looking Forward section of this report.

Energy Efficiency

This subgroup explores energy efficiency, electrification, and clean energy by documenting innovative research and practices for higher performance buildings that reduce energy costs while being resilient to natural hazards.

Building Codes Community of Practice

This subgroup develops recommendations to use the latest, consensus model building and energy codes and standards, create an inventory of codes and standards, modernize building codes through R&D, and improve coordination among federal agencies.

Workforce Development & Job Quality

This subgroup supports agencies in embedding job quality standards into federal funding opportunities and programs, equitable training, pre-apprenticeships and registered apprenticeships, employability, and essential skills training or training on codes and standards enforcement.

Financing & Life Cycle Costing

This subgroup shares knowledge on life cycle cost analyses to be incorporated into funding and financing program enhancements. This subgroup will document federal programs that provide housing-related financing and increase the use of modern codes in those programs.

Figure 5. NIABC BCTF Subgroups

1. Comprehensively review federal funding and financing of building construction

The BCTF conducted a comprehensive review of agency programs that specifically support new construction, rebuilding, or substantial rehabilitation of homes and other occupied buildings through

Federal funding refers to assistance in the form of grants, cooperative agreements, or direct assistance.

Federal financing refers to guaranteed loans, insured loans or mortgage insurance.

funding, financing, or technical assistance. The NIABC landscape analysis identified programs and barriers to establishing consistent baseline codes references across federal programs. This information clarifies the pathway to update programs to use current, consensus model building codes (which could mean, for example, current or next most recent edition) and standards as

the referenced minimum building standards. Twelve federal agencies provided data to inform the landscape analysis: US Department of Housing and Urban Development (HUD), US Army Corps of Engineers (USACE), US Environmental Protection Agency (EPA), General Services Administration (GSA), Federal Emergency Management Agency (FEMA), Small Business Administration (SBA), National Institute of Standards and Technology (NIST), US Department of Health and Human Services (HHS), US Department of Agriculture (USDA), National Oceanic and Atmospheric Administration (NOAA), Department of Labor (DOL) and Department of Energy (DOE).

Each federal agency reviewed existing programs under their portfolio to understand how the program guidance, such as NOFOs and other requirements, can be updated to reference NIABC priorities when applicable, including incorporating current consensus model building codes and standards. All the 100+ federal programs collected to date have linkages to construction of homes and other buildings and structures covered under the scope of the [International Building Code](#). This section highlights federal agency programs that (1) fund new construction, rebuilding, or substantial rehabilitation of homes and buildings, (2) finance new construction, rebuilding, or substantial rehabilitation of homes and buildings, and (3) fund technical assistance on code adoption and enforcement.

Consensus Codes and Standards

A type of code or standard developed or adopted by voluntary bodies through the use of a voluntary development process that includes the following attributes or elements: openness, balance, due process, appeal process, and consensus. The voluntary body is a type of association, organization, or technical society that plans, develops, establishes, or coordinates codes or standards development ([OMB Circular A-119](#)).

EXAMPLES OF PROGRAMS THAT FUND CONSTRUCTION

Many federal programs fund new construction, rebuilding, or substantial rehabilitation of homes and buildings, including federal housing and facilities through grants and cooperative agreements. The programs identified below provide examples of federal agency programs that use current model consensus building codes and standards.

Agency	Program/Description	Funding
Federal Emergency Management Agency	Public Assistance Program : Provides supplemental federal grant assistance for debris removal, emergency protective measures, and the restoration of disaster-damaged, publicly owned facilities including multifamily housing and specific facilities of certain private nonprofit organizations.	Obligations: \$51.6 billion for FY 2021 and an estimated \$45 billion for 2022 and 2023 to expedite disaster recovery and support resilience (sam.gov); COVID-19 Public

Agency	Program/Description	Funding
		Assistance Obligated: \$62.7 billion (fema.gov)
Federal Emergency Management Agency	<p>Safeguarding Tomorrow through Ongoing Risk Mitigation Revolving Loan Fund Program (STORM): The Bipartisan Infrastructure Law (BIL) provides capitalization grants to SLTT governments for establishing revolving loan funds from which they provide direct loans to local governments. Allowable use of funds includes building codes adoption and enforcement of the latest published editions of relevant building codes.</p>	BIL Appropriation: \$500 million over five years (through FY 2026); FEMA released the NOFO on December 20, 2022, making \$50 million available to eligible entities (fema.gov)
US Department of Housing and Urban Development	<p>Community Development Block Grants-Disaster Recovery (CDBG-DR): CDBG-DR grants help cities, counties, and states recover from Presidentially declared disasters, especially in low-income areas, subject to availability of supplemental appropriations. CDBG-DR also sets above-code Green Building Standards for new construction, reconstruction, rehabilitation of substantially damaged residential buildings.</p>	Appropriations: Cumulative \$10 billion in FY 2021, FY 2022 and FY 2023 to advance equitable disaster recovery and build climate resilience (hud.gov)
US Department of Energy	<p>Energy Efficiency and Conservation Block Grant Program (EECBG): Provides funding to reduce fossil fuel emissions to reduce the total energy use of eligible entities and improve energy efficiency in the transportation, building, and other sectors. Eligible uses include the development and implementation of building codes and inspection services, which increase building energy efficiency.</p>	BIL Appropriation: \$550 million for FY 2023 to advance clean energy production (energy.gov)

Agency	Program/Description	Funding
US Department of Health and Human Services	Health Center Construction and Capital Improvements : Provides funding to 1,292 Health Resources and Services Administration (HRSA) Health Center Program funded centers in all 50 states, the District of Columbia, and US territories to support major health care construction and renovation projects. These awards will strengthen primary health care infrastructure and advance healthy equity and health outcomes in medically underserved communities, including projects to support COVID-19 testing, treatment, and vaccination.	Appropriations: \$954 million for physical construction activities that occurred after 9/1/2021 and preconstruction activities such as design, budgeting, surveying after 1/31/2020 (hrsa.gov)

EXAMPLES OF PROGRAMS THAT FINANCE CONSTRUCTION

Many federal programs finance new construction, rebuilding, or substantial rehabilitation of homes and buildings, including federal housing and facilities. Financial support is provided through a series of guaranteed or insured loans to support SLTTs and other partners for the construction of homes and buildings. Below are some examples of federal programs that finance construction of homes, buildings, and federal facilities that can be enhanced to achieve NIABC priorities by incorporating current, consensus-based codes and standards.

Agency	Program/Description	Funding
US Department of Housing and Urban Development	Multifamily Mortgage Insurance : Sections 213 , 220 , 221(d)(4) , 231 , 241(a) insures mortgage loans to facilitate the new construction or substantial rehabilitation of multifamily rental or cooperative housing.	Guaranteed/Insured Loans: Funding not separately identifiable (hud.gov)
US Department of Housing and Urban Development	Community Development Loan Guarantees : Provides communities with access to guaranteed loans for economic development, housing rehabilitation, public facilities, and large-scale physical development projects. All projects and activities must either principally benefit low- and moderate-income persons, aid in the elimination or prevention of slums and blight or meet urgent needs of the community.	Guaranteed/Insured Loans: \$300 million for FY23 (est.), \$190 million for FY22 (est.), \$92 million for FY21 (sam.gov)
US Department of Agriculture	Section 538 Rural Rental Housing Guaranteed Loans : Works with qualified private-sector lenders to provide financing to qualified borrowers with the aim of increasing the supply of affordable rental housing for low- and moderate-income people in eligible rural areas and towns. Encourages the construction or	Guaranteed/Insured Loans: \$400 million for FY23, \$250 million for FY22, \$229 million for FY21 (sam.gov)

Agency	Program/Description	Funding
	rehabilitation of rural rental housing and appropriate related facilities.	
US Department of Health and Human Services	HHS HRSA Loan Guarantee Program : Supports eligible Health Center Program awardees with the construction, expansion, alteration, renovation, or modernization of health center medical facilities.	No limits, but loans are typically for projects \$5 to \$7 million or more (bphc.hrsa.gov)

EXAMPLES OF PROGRAMS THAT FUND TECHNICAL ASSISTANCE

Many federal programs fund technical assistance and training to directly promote the adoption of building codes through grant funding that incentivizes the adoption of the current building codes. Other federal agencies indirectly promote the adoption and use of the current model building codes through assistance programs that build capacity of SLTTs through training and subject matter expertise. Some federal efforts also support improvement of model codes and standards through R&D. Below are examples of federal programs that fund technical assistance, training or improvements of model codes and standards.

Agency	Program/Description	Funding
Federal Emergency Management Agency	Community Assistance Program – State Support Services Element (CAP-SSSE) : Helps states proactively identify, prevent, and resolve floodplain management issues in participating communities before a flood event occurs. CAP-SSSE helps to build state and community floodplain management expertise and capability and leverage state knowledge and expertise in working with their communities.	Funding allocated to provide technical assistance through this program
National Institute of Standards and Technology (lead), Federal Emergency Management Agency, United States Geological Survey, National Science Foundation	National Earthquake Hazards Reduction Programs (NEHRP) : (1) Individual State Earthquake Assistance – Allows updates to building codes, zoning codes, and ordinances to enhance seismic safety, (2) Multi-State and National Earthquake Assistance – Allows development, promotion and administration of national-level outreach and awareness activities specifically designed to increase seismic building code awareness, adoption, and enforcement, and (3) NEHRP Technical Assistance.	Funding allocated to provide technical assistance through this program
National Institute of Standards and	National Windstorm Impact Reduction Program (NWIRP) : NIST is the lead agency for NWIRP,	Funding allocated for R&D and engagement

Agency	Program/Description	Funding
Technology (lead), Federal Emergency Management Agency, National Oceanic and Atmospheric Administration, National Science Foundation	responsible for (a) coordinating federal windstorm risk reduction and (b) conducting applied wind engineering research. NIST led the development of tornado hazard maps and tornado load design methodologies that have been included in ASCE/SEI 7-22 Minimum Design Loads for Buildings and Other Structures and approved for incorporation in the 2024 International Building Code.	with codes and standards development organizations
National Institute of Standards and Technology	Energy-Efficient, High-Performance Buildings Goal : Enables cost-effective, energy-efficient, grid-integrated buildings that have healthy and comfortable indoor environments through advances in measurement science and standards development.	Funding allocated for R&D and engagement with codes and standards development organizations
National Institute of Standards and Technology	Community Resilience Program : NIST created a new project in FY23 on Resilient Infrastructure and Future Hazard Impacts. This project focuses on identifying methods and practices to incorporate climate projections and data into codes and standards and to support the continued resilience of buildings, infrastructure, and communities.	Funding allocated for R&D and engagement with codes and standards development organizations

Additional examples of state-federal programs that promote enhanced codes and standards through targeted outreach, education and assistance and can also link building codes to land use planning include:

NOAA Coastal Zone Management Program (CZM) addresses the nation’s coastal issues through a voluntary partnership between the federal government and coastal and Great Lakes states and territories. CZM programs work closely with local communities to increase awareness of coastal hazards and provide technical assistance to increase community resilience. Many of these programs also have regulatory functions along the coast and can designate certain areas as critical areas or special management areas, within which enhanced codes and standards may be required.

NOAA National Sea Grant Program funds 34 state Sea Grant programs; many of them work with state and local decision-makers, community leaders, homeowners, insurance representatives, and researchers on codes and standards related to hurricane and coastal storm hazards. This includes developing and delivering educational resources for homeowners facing coastal hazards and conducting research on resilience measures to protect homes and businesses from coastal hazards. Many of the state Sea Grant programs provide outreach and demonstration projects in their efforts to increase adoption and updates of codes and standards related to infrastructure.

USACE Programs to Engage and Assist State, Local, Tribal and Territorial Partners: USACE engages with and provides technical or financial support to others through programs under different congressional authorities. This could include federal, state, regional, and local government agencies, territories, federally recognized Indian Tribes and others. Each program has its own set of objectives, requirements, guidelines, processes, authorities and limitations. Opportunities may exist to leverage these USACE programs to promote the adoption of modern building codes and standards, though building codes are not directly within the authority of any of the programs. This may be through various means, including funding prioritization, standards and policy development, and partnership agreements. USACE will explore these opportunities further as part of its NIABC implementation plan. USACE programs that may fit under this category include: Planning Assistance to States ([PAS](#)), Flood Plain Management Services ([FPMS](#)), Tribal Partnership Program ([TPP](#)), and Corps Water Infrastructure Financing Program ([CWIFP](#)). USACE also engages with state and local partners through [Silver Jackets](#) teams, which are state-led interagency teams that facilitate collaborative solutions to state-identified flood risk priorities.

2. Provide incentives and support for communities to adopt and enforce current building codes and standards

Federal agencies will utilize existing and new program funding streams to provide capacity building, outreach and technical assistance to SLTTs to adopt and enforce modern building codes, including through the review, adoption and enforcement of, and training on, relevant codes, as well as above-code standards, such as zero emissions and zero energy codes, as feasible. This also includes advancing the use of innovative incentives in federal funding to support and reward jurisdictions for code adoption and enforcement, to the extent allowed by law, with a focus on assisting historically underserved communities.

Federal agencies have programs and initiatives that provide support for communities to adopt and enforce current building codes and standards. For example, under Section 50131 of the Inflation Reduction Act, Assistance for Latest and Zero Building Energy Code Adoption, DOE will award \$1 billion in grants to encourage state and local governments to adopt more stringent energy code regulations. This includes \$670 million for the adoption of energy regulations that meet or exceed zero energy provisions in the 2021 edition of the International Energy Conservation Code (IECC). \$330 million will be used to support: (1) the adoption of building

Considerations for Federally Recognized Tribes

Federal agencies will support tribal communities to adopt and enforce current building codes and standards with flexibility for operational constraints, mission requirements, technical feasibility, individual limitations, or tribal, cultural or traditional structures. Considerations for historical injustice around treaties and relocation, lack of adequate housing, and best practices in tribal building code adoption as it relates to sovereignty will continue to be explored in consultations with the 580 federally recognized tribes.

energy codes for residential buildings that meet or exceed the 2021 IECC and (2) building energy codes for commercial buildings that meet or exceed the ANSI/ASHRAE/IES Standard 90.1-2019.

DOE has also issued a [Request for Information \(RFI\)](#) seeking public input on a new \$1 billion program to improve energy generation in rural or remote communities across the country. Funded by the Bipartisan Infrastructure Law, the Energy Improvements in Rural or Remote Areas program will strengthen the resilience, reliability, and availability of energy systems, helping communities unlock the public health and cost-saving benefits that cleaner, more efficient energy provides. The program will provide federal support to rural or remote communities to improve the overall cost-effectiveness of energy generation, transmission, or distribution systems; site or upgrade transmission and distribution lines; reduce greenhouse gas emissions from energy generation by rural or remote areas; provide or modernize electric generation facilities; develop microgrids; and increase energy efficiency. DOE is also tracking the status of state energy code adoption to expand the implementation of the latest building energy codes and support the development of buildings that use less energy.

FEMA has also developed new tools to investigate community building code adoption nationwide. The [National Building Code Adoption Tracking \(BCAT\) landing page](#) helps understand how and where to improve climate resilience. It includes detailed information on building code adoption, including adopted code edition and whether model codes have been weakened for hazard resilience provisions. It is continuously updated to identify the status of building code adoption relative to known climate and other natural hazard risks in each community, with a particular focus on code adoption in underserved areas, to help local policymakers advance the adoption of modern, hazard-resistant building codes. The BCTF will continue tracking these opportunities in 2023.



Using Data to Advance Equity in Resilience

FEMA conducted analyses of **Building Code Adoption Tracking (BCAT)** data with **Climate and Economic Justice Screening Tool (CEJST)** data to explore the adoption of hazard-resistant building codes in disadvantaged communities. The analyses confirmed that a mandatory statewide building code is the primary indicator for the adoption of hazard-resistant building codes in disadvantaged communities. In states without a mandatory statewide building and residential code (which includes states that have optional codes, conditional codes, or no state level codes), only 19% of disadvantaged communities have resilient building codes. Additionally, FEMA programs such as BRIC and the Hazard Mitigation Grant Program support the training and certification of the SLTT workforce that administers the Nation’s building codes. These efforts contribute to a professional workforce and good jobs for building codes administration personnel to advance equity.

Four federal assistance programs (found on page 14) advance the NIABC mission through incentivizing the use of current, consensus model building codes and standards in their NOFOs and Notices of Intent (NOI). These programs can guide other federal agencies as they determine how to

amend their federal assistance program guidance or update requirements to align with NIABC priorities.

DOE – [Building Codes Implementation for Efficiency and Resilience](#)

Enables sustained, cost-effective implementation of updated building energy codes to save customers money on their energy bills. Assistance includes workforce training partnerships and direct support to state and local agencies, while prioritizing the needs of disadvantaged communities and advancing the President’s Justice40 Initiative. On December 19, 2022, DOE announced the first installment, allocating [\\$45 million in competitive grants](#), to help states and partnering organizations implement updated building energy codes and lower energy bills. Funding: \$225 million over 5 years.



HUD - [Community Development Block Grant Disaster Recovery \(CDBG-DR\)](#)

Supports the recovery process and funds the rebuilding of areas that have been impacted by Presidentially declared disasters. CDBG-DR grants help cities, counties, and states recover, especially in low-income areas, by supporting a broad range of recovery activities. Eligible activities include green and resilient building standards for new construction and reconstruction of housing. The grantee’s action plan must also support the adoption and enforcement of modern and resilient building codes that mitigate against natural hazard risks, including climate-related risks. Funding: \$10 billion since FY2021.



USDA – [Community Wildfire Defense Grants](#)

Provides financial assistance to communities, tribes, states, and other agencies and organizations for areas that are at risk of damage from wildfire to develop or update community wildfire protection plans. Communities are incentivized to update, adopt, and develop current building codes that reduce susceptibility to wildfire exposure. Projects must be in an at-risk, low-income communities with high or very high wildfire hazard potential that have experienced a severe disaster within the previous 10 years. Funding: \$1 billion over 5 years (\$160 million for FY 2022).



FEMA – [Building Resilient Infrastructure and Communities \(BRIC\)](#)

The Building Resilient Infrastructure and Communities (BRIC) program makes federal funds available to states, US territories, federally recognized tribal governments, and local communities for hazard mitigation activities, including building code adoption and enforcement, capability and capacity building, identifying risk reduction strategies, and promoting equity. Eligible construction activities include residential, critical services, facilities, resilient infrastructure, and safe rooms such as storm shelters for tornados and hurricanes. Funding: \$2.295 billion for FY 2022.



3. Lead by example across the federal building portfolio

Federal agencies are seizing opportunities to advance “above-code” resilience and energy efficiency standards in new projects. The Administration will continue to encourage the adoption of above-code resilience and energy efficient standards across the federal building portfolio as part of its effort to implement the [Executive Order on Federal Sustainability](#). The White House also published a Fact Sheet focused on the [First-Ever Federal Building Performance Standard](#) to catalyze American innovation to lower energy costs, save taxpayer dollars and reduce emissions. Efforts that lead by example across federal building portfolio include:



All Federal Agencies

The [Federal Flood Risk Management Standard](#) (FFRMS) is a flood standard that aims to build a more resilient future. Multiple federal agencies have policies linked to advancing this standard and are leading the way by implementing FFRMS. The FFRMS provides flexibility and requires agencies to select one of the three approaches for establishing the flood elevation (“how high”) and corresponding flood hazard area (“how wide”) used for project siting, design and construction: 1) Climate Informed Science Approach (CISA): The elevation and flood hazard area that result from using the best-available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate science; 2) Freeboard Value Approach (FVA): The elevation and flood hazard area that result from adding an additional two feet to the base flood elevation for non-critical actions and by adding an additional three feet to the base flood elevation for critical actions; or 3) 500-year floodplain: The area subject to flooding by the 0.2%-annual-chance flood.

FFRMS Decision Support Tool: To support FFRMS implementation, NOAA, in conjunction with data provided by FEMA, will develop a user-friendly, geospatial web-based interactive decision support tool that is applied to new flood mapping layers. This tool will become the primary mechanism to aid agencies in fulfilling the FFRMS requirements to identify the future flood elevation and corresponding floodplain and to consider use of nature-based approaches for floodplain management and mitigation. The tool will provide necessary information and resources to assist agencies and their non-federal partners and funding recipients in successfully implementing the FFRMS into program decisions for actions in or affecting floodplains, including project siting, design, construction, and repair or rehabilitation.



GSA

The [Facilities Standards for the Public Buildings Service \(P100\)](#) establishes design standards and performance criteria for the GSA Public Buildings Service. GSA is currently amending the P100 to reflect compliance with administration net zero energy goals. The standards also detail GSA's low embodied carbon concrete and environmentally preferable asphalt requirements. These requirements must be included in the scope of work for all new projects effective March 17, 2022. GSA's Green Proving Ground program, in collaboration with DOE, has issued a [request for information \(RFI\)](#) to obtain responses from vendors and other interested parties on technologies that help reduce greenhouse gas emissions from commercial buildings. The RFI invites industry to submit information on early-commercial technologies that

are ready for evaluation in occupied, operational buildings. GSA has also supported the White House in advancing [Federal Building Performance Standards](#).



HUD

HUD has several technical and training resources for HUD partners and stakeholders considering building codes and standards. The Office of Community Planning and Development published the [Resilient Building Codes Toolkit](#) to bring transparency and clarity to building codes, especially with respect to resilience. It created a platform that allows all relevant stakeholders to navigate an otherwise challenging building code environment and to offer resources for Community Development Block Grant Disaster Recovery (CDBG-DR) and CDBG Mitigation (MIT) grantees to incorporate resilient building codes into their disaster recovery and mitigation efforts. The goal is to enhance resilience in the built environment, specifically in housing and other critical building assets. Four training webcasts were held for local communities interested in putting the Toolkit to work in their communities.

Other HUD offices have also published robust climate resilience training materials. The Office of Environment and Energy, for example, has published a [Climate Change Impacts Guide](#) to the Environmental Assessment required for certain HUD-financed projects. The Office of Public and Indian Housing has updated its [Disaster Readiness, Response and Recovery \(DR3\) Guidebook](#) to include pre-emptive climate mitigation construction practices for Public Housing Authorities. HUD will continue to make these materials available and identify opportunities for training and technical assistance for HUD grant recipients on HUD Exchange and HUD’s technical assistance and training portal.



FEMA

In March 2022, FEMA released the [FEMA Building Codes Strategy](#)—a comprehensive, unified vision for incorporating building codes and standards across FEMA programs and operations. To advance the adoption and enforcement of hazard-resistant building codes and standards, it promotes integrating building codes and standards across FEMA, strengthening nationwide capability and expertise, and driving public action.

The FEMA Building Codes Strategy is supported by *FEMA Directive 206-22-0001: Hazard-Resistant Building Codes, Specifications and Standards for Risk Reduction*. The directive provides specific principles and requirements for FEMA program, regional and field offices to require and incentivize building codes and standards across FEMA programs, policies and guidance. According to the Directive, FEMA will integrate and, where legally permissible, consistently require, at a minimum, the current or next most recent published editions of building codes into its programs, policies and guidance. FEMA also works with external partners to improve climate resilience through modern building codes and standards.

FEMA strives to lead by example by leveraging partnerships, amplifying climate science messaging and targeting building code adoption to focus on the most vulnerable communities.



NOAA, NIST, FEMA

NOAA, NIST and FEMA have all had various engagements with the American Society of Civil Engineers (ASCE). [ASCE 7](#) Minimum Design Loads and Associated Criteria for Buildings and Other Structures is the recognized US standard for design loads including flood, seismic, tornado and other hazards. It provides minimum loads, hazard levels, associated criteria and intended performance goals for buildings, other structures and their nonstructural components that are subject to building code requirements. In December 2021, ASCE 7-22 was updated in collaboration with [NIST](#) to include a chapter on [tornado loads](#) (chapter 32). ASCE is also working on a supplement that will propose determining flood loads based on flood mean recurrence intervals (MRI) that are [higher than the National Flood Insurance Program \(NFIP\)](#) 100-year standard for most building structures. This supplement will incorporate future conditions, such as climate change effects, into floodplain designations and building standards for future adoption by SLTTs. Another engagement includes the [NOAA Climate Program Office](#)'s partnership with the University of Maryland (UMD) Center for Technology and Systems Management and the ASCE to accelerate the development of climate-smart engineering codes and standards.

During this report development in December 2022, leadership from NOAA and ASCE intended to host a **NOAA/ASCE Leadership Summit on Climate-Ready Infrastructure** in early 2023. The summit took place in February 2023 to recognize and formalize the collaborative partnership. A Memorandum of Understanding (MOU) was established to help ensure that NOAA climate science, information and services are available and used when developing and updating ASCE codes and standards. The stated purpose of the MOU is to 1) improve cooperation in developing and delivering climate information and services required by civil engineering and allied professionals in order for them to design, build, operate and maintain climate-resilient infrastructure; and 2) facilitate ASCE's efforts to update its published and educational content to reflect the best available climate information. The summit included perspectives from several other key federal agencies, including FEMA, USACE and NIST, and some nonprofits.



DOE, GSA, EPA

The Administration will implement the first-ever Federal Building Performance Standards, being developed by the White House Council on Environmental Quality, GSA, DOE, and EPA, to advance the retrofits of existing federal buildings and establish metrics, targets, and tracking methods to reach the Administration's federal carbon emissions reduction goals, including a net-zero emissions building portfolio by 2045, with a 50 percent emissions reduction by 2032. These agencies have also supported the White House in advancing [Federal Building Performance Standards](#).



USACE

The Department of Defense (DoD) Unified Facilities Criteria (UFC) Program is highly effective in requiring industry to comply with modern codes and standards. The program applies to facility construction within DoD. Other non-DoD organizations leverage program criteria, specifications and guidance, as well. The UFC Program streamlines criteria by eliminating duplication and increasing reliance on private sector standards. Standards are published in UFC's Unified Facilities Guide Specifications (UFGS) and branch-specific Facility

Criteria (FC), technical manuals and specifications used for planning, design, construction, and maintenance of DoD military installations and facilities. UFC, UFGS, and FC standards are publicly available and may be found on the [Whole Building Design Guide website](#).

Through the Civil Works Guidance Program, USACE maintains its own set of internal standards for use on Civil Works (CW) projects. These standards are separate from the mostly military UFC program; they apply more directly to the unique civil mission of USACE. The CW standards relate to water resources and public works projects, including dams, levees, locks, channels, dredging, flood protection, environmental restoration, and other built and natural infrastructure. USACE's CW standards detail best practices in the development, design, and construction of CW projects. The guidance documents are publicly available and may be found on the [USACE publications website](#).

The DoD UFC and USACE Civil Works Guidance Programs represent prime opportunities for the federal government to lead by example. Both programs have resulted in significant engineering guidance being pushed out into industry, promoting the application of modern codes and standards across the nation. The guidance is regularly reviewed and prioritized for updates to include incorporation of the latest industry consensus codes and standards and proven practices.



EPA

[ENERGY STAR® New Homes](#) (EPA Office of Air and Radiation) includes a series of high-impact, efficient electric improvements that can save the average family about \$500 a year on utility bills. This major expansion of EPA's trademark ENERGY STAR® program takes a market-based approach to connect American households at all income levels with the resources they need to plan for the clean energy future. EPA is engaged with partners to support innovative financing approaches, such as Inclusive Utility Investments. EPA is also engaged with federal government programs such as the USDA Rural Utility Service loans and grant programs, DOE's Weatherization Assistance Program, and others to help ensure that all families have access to these upgrades. A central resource for this new initiative is an [interactive web-tool](#) that shows the value of an ENERGY STAR® Home Upgrade and helps consumers navigate the process with buying guidance, information on financial incentives, and links to qualified contractors.

[WaterSense labeled homes](#) (EPA Office of Water) must be at least 30 percent more water-efficient than typical new construction. Under the [Homes Certification System](#), they are verified and certified to meet EPA's Mandatory Checklist and achieve EPA's water efficiency criteria demonstrating that the home will use at least 30 percent less water than a typical home. WaterSense labeled homes meet consumers' demand for a whole-house solution to save water, energy, and money while maintaining a high level of performance.



NIST

The NIST Office of Facilities and Property Management (OFPM) has developed an active collaboration with the Building Energy and Environment Division and the Systems Integration Division in the NIST Engineering Laboratory (EL) and the Smart Connected Systems Division in the Communications Technology Laboratory,

leveraging EL's and CTL's unique research capabilities and expertise to support OFPM's high performance and net-zero energy building goals. Some buildings on the NIST campus are being used as testbeds for energy efficiency and indoor air quality research, providing data to aid OFPM in efficient management of these facilities and simultaneously yielding information advancing the understanding of building performance, which support EL's and CTL's efforts to improve building and energy codes, standards and practices.

Looking Forward

The progress made in 2022 lays a strong foundation for continued momentum in 2023. Federal agencies are currently developing and seeking internal approval for their respective NIABC implementation plans, which includes establishing targeted goals to measure NIABC progress. The BCTF and its subgroups will continue meeting on a biweekly cadence to build and strengthen mechanisms for cross-collaboration and unity toward the shared goal of advancing strong building codes. Through the investments made by the Infrastructure Investment and Jobs Act and the Inflation Reduction Act, federal agencies will explore opportunities to: (1) incentivize building code adoption and enforcement, including the most recent energy codes, and zero energy and zero emissions codes, where feasible, (2) apply the latest consensus model building codes and above-code requirements, where applicable, and (3) modernize building codes through R&D.

Incorporate BCTF Subgroup Recommendations into Implementation Plans

The BCTF Subgroups are developing recommendations and supporting materials for agencies to inform their NIABC implementation plans. These recommendations include sample implementation language that federal agencies can use in their plans, where applicable.

1. **The Energy Efficiency Subgroup** recommended that BCTF agencies update to the latest suite of codes, including energy codes, and discourage weakening amendments. The subgroup also recommended support for workforce development opportunities, highlighting the possibility for coordination with the Workforce Development & Job Quality Subgroup. The subgroup recommended support for compliance activities, evaluation of above-code measures, alignment of new construction codes, and implementation of zero carbon construction policies and practices for new federal buildings.
2. **The Building Codes Community of Practice** is compiling a codes and standards reference document for new and existing buildings, which will be expanded in 2023. This list of codes will focus on different audiences and will serve as a support tool for decision-making. The subgroup will discuss [stretch codes](#) that are locally mandated or alternative compliance path more aggressive than the base code, above-code requirements, and other standards including [FORTIFIED](#) to explore how to reduce property losses.
3. **The Workforce Development & Job Quality Subgroup** provided the BCTF with recommendations to use the [Job Quality Checklist](#) as a tool to update funding opportunities and other relevant programs, guidance, and policies, where applicable. The subgroup is orienting its work based on the US Department of Labor and US Department of Commerce [Good Jobs Principles](#) and recommends using the [Job Quality and Equity NOFO language checklist](#) to inform updates to funding opportunities. In 2023, the subgroup will work to

determine feasibility of agency-specific memoranda of understanding (MOUs) with DOL to provide long-term assistance in addressing equitable workforce development and job quality.

4. **The Financing & Life Cycle Costing Subgroup** recommended the BCTF use Benefit Cost Analysis (BCA)/Life Cycle Costing Analysis (LCCA) consistent with industry consensus standards and federal statutes. Recommendations also include developing guidance on benefits and costs, leveraging housing-related financing programs (e.g., direct loans, guaranteed loans) and understanding aspects of federal financing of construction (housing, etc.). The subgroup will continue developing sample implementation plan language for BCTF use in 2023. The subgroup will also increase focus on the financing components of the subgroup priorities and explore engagements with federal insurance partners.

Expand Equity and Climate Resilience Considerations

NIABC focuses on increasing our nation’s resilience to the impacts of climate change. One priority of the NIABC includes helping marginalized and over-burdened communities prepare for the impacts of climate change through capacity building and providing support to historically underserved communities. The [Justice40 Initiative](#) will inform how federal agencies will prioritize the needs of disadvantaged communities.

NIABC will also work with USDA and HUD to explore pathways to support the needs of rural and often underserved communities to advance the adoption, application and enforcement of the current consensus model building codes and standards. BCTF will also continue consultations with Tribal Nations to determine future support needs.

[BCAT](#) and [CEJST](#) tools will be used to identify the status of building code adoption relative to known climate and other natural hazard risks in each community, with a particular focus on code adoption in underserved areas, to help local policymakers advance the adoption of modern, hazard-resistant building codes.

Develop NIABC Targets and Performance Measures

In 2023, BCTF will work with federal agencies to establish performance measures, including targets for code adoption, and further develop them in 2023. BCTF will also explore the following:

- Utilizing the publicly available Building Code Adoption Tracking portal for agencies and their program applicants and participants to assess the strength of code adoption by locality relative to known natural hazards in that location, and weaknesses (if any) in adoption of appropriate building codes.
- Updating program requirements (statute, regulation, guidance, policy) to specifically reference current, consensus model building codes and standards, including the process and cadence for periodic updates.

Engage with Federal and External Partners

- BCTF will work with the MitFLG to validate and approve branding materials such as the NIABC logo in 2023. Other communications and marketing materials will be developed as needed.
- BCTF will continue working with federal partners to determine external engagements required to sustain and build existing and new partnerships for the NIABC. Some examples include exploring opportunities with SLTTs to prevent the inclusion of code amendments that weaken the current model consensus codes and standards. BCTF will continue to coordinate with and identify federal partners to join NIABC efforts.

Conclusion

Since its launch in June 2022, the NIABC has mobilized 14 federal agencies to align efforts and build momentum toward a shared goal that will boost resilience to the impacts of climate change, lower utility bills for homes and businesses, prioritize underserved communities, and create good jobs. BCTF members bring unique expertise and experience, using interdisciplinary approaches that examine areas such as energy, labor, environment, and equity, to advance NIABC priorities. The BCTF will continue to engage with external and federal partners to support NIABC implementation in 2023. BCTF will also work with federal agencies to determine how to amend or update federal program requirements (statute, regulation, guidance, policy) to specifically reference the latest consensus model building codes as well as above-code requirements, where feasible. Periodic progress reports will be submitted to the Council on Environmental Quality and the White House National Climate Task Force, as needed.