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On Behalf of the
National Association of Home Builders

Before the

House Select Committee on the Climate Crisis

"Hearing Solving the Climate Crisis: Cleaner, Stronger Buildings"

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Introduction

Chairwoman Castor, Ranking Member Graves, I am pleased to appear before you today on behalf of the National Association of Home Builders (NAHB) to share our views regarding resiliency and energy use within residential buildings. My name is Jimmy Rutland and I am a third-generation home builder and developer from Montgomery, Alabama. I am the former President of the Greater Montgomery Home Builders Association and serve on the board of directors of NAHB. In addition to my service with the local, state and national home builders associations, I serve on the State of Alabama Energy and Residential Codes Board. In this capacity, I work with various industries and regulators involved in Alabama's residential and commercial construction industry to adopt and amend energy and building codes for the entire state.

NAHB represents more than 140,000 members who are involved in land development and building single-family and multifamily housing, remodeling and other aspects of residential and light commercial construction. NAHB's members construct approximately 80 percent of all new housing built in the United States each year.

NAHB's mission is to enhance the climate for housing and the building industry, including providing and expanding opportunities for all people to have access to safe, decent and affordable homes. Due to the wide range of activities they conduct on a regular basis to house the nation's residents, our members are often required to comply with various regulatory and incentive-based programs to address issues related to climate change and resilience.

NAHB is leading the way to improve resiliency and the performance of new and existing homes. As a longtime leader in the drive to make homes more energy efficient, NAHB has also repeatedly demonstrated a commitment to sound federal disaster and floodplain management policies and cost-effective, market-driven solutions that maintain housing affordability while balancing the needs of growing communities with the need for reasonable protection of life and property.

As stakeholders in both the public and private sectors wrestle with finding the right balance of regulations and programs to protect homes and their occupants from severe weather events and hazards, some argue that more should be done. But most additional efforts come at costs that not only curtail homeownership and significantly hinder housing affordability, but also can severely impact state and local economies. This is because these policies can greatly influence how existing structures and cities are reengineered, rebuilt and/or remodeled and impact how and where new homes and communities are built. Depending on how they are developed and implemented, they can also be inflexible and overly protective, fail to target areas of highest risk, reduce availability of buildable land, tax limited resources, and have significant cost implications that can have a detrimental impact on housing affordability in many areas of the country.

To address these questions regarding the role clean energy and resiliency plays in the housing market and to identify the challenges the industry faces in doing so, this testimony highlights the following points:

- Maintaining housing affordability must be the cornerstone to any efforts to create cleaner and stronger homes. Any efforts to improve or increase the efficiency or resiliency of the U.S. housing stock should focus on cost-effective, market-driven solutions.

- Homes built following modern building codes are resilient. Improving the performance of the 130 million homes built before 2010 that are much less energy efficient and resilient than today's new homes is a much more effective way to achieve energy savings and improve resiliency than targeting new homes.

- State and local governments must retain authority over land use and their code adoption processes so they can continue to direct community development and implement the codes that best fit their jurisdictions.

- Climate change mitigation programs that recognize and promote voluntary-above code compliance have a proven track record and demonstrate that mandates are not necessary.

- Incentives play an important role in providing homeowners a cost-effective way to invest in energy efficiency and resiliency. Mandates, which fail to consider the needs or desires of consumers, lack the flexibility needed for realistic, widespread application, and add unnecessary costs to home construction and retrofits, are an unwise approach to improving efficiency and home performance.

Status of the Nation's Housing Stock

The American housing stock continues to age, especially as residential construction continues its modest rebound after the Great Recession. Because recent production has fallen short of even the levels needed to accommodate the number of net new households, there is increasing pressure to keep existing homes in service longer – homes that may not perform as well or be as resilient as newer homes.

One hundred and thirty million homes out of the nation's housing stock of 137 million were built before 2010, and therefore, most were not subject to the modern building codes that are now in effect. Equally problematic, the latest Census statistics show the number of homes built before 1970 that are taken out of commission is only about six out of every 1,000 being retired per year.

These low rates of replacement mean that the built environment in the U.S. will change slowly and continue to be dominated by structures that are at least several decades old. Indeed,

optimistic estimates suggest that if 1.2 million homes were built every year, after 20 years only 16 percent of the conventional housing stock would consist of new homes built between now and then. In comparison, 68 percent would still consist of homes that were built before 1990.

Older homes are less resilient and energy efficient than new homes. They were not built to the stringent requirements contained in modern codes, use (and lose) more energy, and are more susceptible to damage from natural disasters. Many of FEMA's post-disaster investigations support this conclusion. For example, FEMA's Mitigation Assessment Team Report regarding Hurricane Sandy reads, "Many of the low-rise and residential buildings in coastal areas [that had observable damage] were of older construction that pre-dates the NFIP." Similarly, the Insurance Institute for Business and Home Safety stated in its preliminary findings report for Hurricanes Harvey and Irma that, "[t]otal destruction from wind occurred to mobile homes, as well as older site built conventional homes," and "[n]ewer homes generally performed better than older buildings."

Clearly, these statistics and studies demonstrate that improvements in construction practices and building codes have made significant strides in improving the efficiency and resiliency of new construction and that further gains will be difficult and costly. As policymakers seek to improve efficiency and mitigate the effects of future natural disasters, they need to create opportunities and incentives to facilitate upgrades and improvements to the older homes, structures and infrastructure that are less resilient to natural disasters.

These structures make up the majority of the housing stock and will for the foreseeable future. They were built when there were no national model codes or constructed following codes that are now outdated, and thus provide a wealth of opportunities for improvement. Because they also represent the biggest energy users and are the least resilient, programs and policies that focus on the existing housing stock would reap the most benefits.

Housing Affordability

According to a nationwide survey conducted for NAHB in August 2019, four out of five American households believe the nation is suffering a housing affordability crisis and at least 75 percent report this is a problem at the state and local level as well. Other NAHB research shows that housing affordability in the single-family market is near a 10-year low. Only 61.4 percent of new and existing homes sold in the first quarter of 2019 were affordable to families earning the U.S. median income of $75,500, and if the median U.S. new home price goes up by $1,000, more than 127,000 households would be priced out of the housing market nationwide.

As a result, owning or renting a suitable home is increasingly out of financial reach for many households. In fact, almost a third of the nation's households are cost burdened and pay more than 30 percent of their income for housing. At the same time, net new households are being formed faster than new single-family and multifamily homes are coming on line to accommodate them, so there is both a surge in need and not nearly enough supply.

And finally, making things worse, NAHB estimates that nearly 25 percent of the final cost of a single-family home and more than 30 percent of the cost of a multifamily home is due to government regulations at all levels of government – regulations such as building codes, energy efficiency mandates and zoning requirements. This is further exacerbating the supply/demand curve and making the housing market even more challenging.

Clearly, the nation is experiencing a regulatory and housing affordability crisis. President Trump recognized this earlier this year when he issued an Executive Order establishing a White House Council on Eliminating Regulatory Barriers to Affordable Housing through which he directed federal agencies and others to address, reduce and remove the multitude of overly burdensome regulatory barriers that artificially raise the cost of housing development and help to cause the lack of housing supply.

Despite these real challenges, many continue to suggest that home builders should make their homes more resilient and/or efficient in an effort to respond to and stem the impacts of climate change, meet carbon emissions limits or further environmental goals, among others. Unfortunately, many of the suggestions made to date will only exacerbate the current housing crisis.

Many people cannot afford to purchase a home, much less one that exceeds current building requirements. In Louisiana, after a new code was adopted in 2017, builders saw an increase in construction costs of about 8 percent. Compliance with many code changes and conducting certain building retrofit activities can be even costlier. For example, building costs can increase between $4,800 and $14,000 due to the changes from the 2006 to the 2009 code and the national average cost for a typical residential 6-kilowatt photovoltaic system, a basic requirement for a net zero home, is close to $18,000. Obviously, those costs are passed along to the consumer and can have a significant impact on the pool of eligible buyers.

Additionally, recent research has found that taking steps toward achieving near-zero carbon consumption will increase a renter or homeowner's monthly costs from $55 to $311. Most potential home buyers and those who are renovating or upgrading their existing homes do not have the financial resources to cover such exuberant costs.

At the end of the day, stricter construction standards and mitigation comes with a price tag. Regardless of the level of benefit, the benefit must be obvious to the homeowner in the form of reasonable paybacks in energy, insurance premiums, or other savings, and some entity must provide the upfront funding required to conduct the construction or mitigation activities or they will not occur.

This is where the challenge lies for most consumers and homeowners. Just because more stringent codes or pre-disaster mitigation may provide a benefit doesn't mean it can or will be implemented. While the increased funding from the Disaster Recovery Reform Act of 2018 (DRRA) can help, because most of these sources have been consistently oversubscribed and

target the highest risk structures, it is unlikely they will be able to fully serve the array of mitigation needs associated with existing housing. New sources, avenues and incentives must be found to make upgrades and overall housing more affordable.

Options to Improve Resiliency and Energy

There have been a number of legislative proposals, regulatory suggestions and strategy recommendations about ways to make our buildings cleaner and more resilient. Most have focused on increasing mandates and creating funding streams or other incentives. Few have centered on facilitating or recognizing voluntary efforts. NAHB strongly believes that incentives and voluntary, market-based programs are the only ways to meet these goals in a cost-effective manner. Further, given the significant improvements that can be gained from improving the existing building stock, NAHB strongly encourages Congress to focus on the highest risk areas and improving the older homes, structures and infrastructure that are less energy efficient and less resilient to natural disasters.

- Federal Building Code Mandates Problematic

Many have suggested that more stringent building codes or meeting mandatory energy requirements, such as net-zero, are the only answers to improving residential resiliency and energy efficiency. NAHB strongly disagrees, as both options are problematic, unnecessary and adversely affect housing affordability. Further, states traditionally have, and continue to take the lead on these issues, so federal intervention is not necessary.

- Modern Codes are Resilient

Building codes are designed to establish minimum requirements for public health and safety for commercial and residential structures. Although they have existed in various forms for decades, building codes in the United States achieved a milestone in 2000 when the three regional code organizations were consolidated into the International Code Council (ICC) and their codes were combined to create the first set of "I-Codes," which were published in 2000.

Although there are other building codes available, the I-Codes are the most widely used model building codes, with some form of the International Building Code (IBC) adopted in all 50 states and versions of the International Residential Code (IRC) adopted in 49 states. The I-Codes are modified through a formal public consensus process every three years. This has resulted in the publication of a new edition in 2003, 2006, 2009, 2012, 2015 and 2018. Work has commenced on the 2021 version of the code and final votes will take place in the fall of 2019.

When the I-Codes were created, a number of major improvements were immediately made to the traditional building code requirements within the residential building

code to address issues observed after Hurricane Andrew in 1992 and the California earthquakes of 1989 and 1994. Although additional improvements have been made since the I-Codes' debut in 2000, the number of changes incorporated into the newer editions of the IRC that dramatically impact structural reliability and occupant life safety within residential structures have greatly diminished. In other words, the modern building codes (e.g., post-2000) have proven to be resilient and the need for triannual updates is not necessary for improved resilience.

Despite this, many believe that homes built following the "latest published edition" of the building code equate to more resilient homes, but that is not necessarily the case when compared to those built to previous editions of the IRC. Homes built to modern building codes – defined as any edition of the IRC – have been shown to be resilient. Evidence from FEMA and others demonstrate the IRC, throughout its history, has been very effective in preventing the destruction of homes due to various storms and earthquakes and significantly reducing damage to wall and roof coverings. Further, because many of today's new homes are built with additional sustainable and high-performance building features, they are even more durable and resilient.

The successful performance of the IRC is also an indication of the "maturing" of building codes as they have gone through the iterative process of refinement since 2000. While tweaking the code to reflect technological advances will continue, it is clear that major changes aren't as necessary as they used to be. Similarly, because the codes are nearing a point of diminishing returns in terms of the cost/benefit ratio, additional updates may not be cost effective. Homes can be built to withstand any disaster, but homes cannot yet consistently be built to withstand any disaster and be affordable. New homes built to modern codes are efficient. New homes built to modern codes are safe. New homes built to modern codes are resilient. There is no need to require adherence to the latest published edition of the code – especially if that is interpreted to mean the most recent version.

- Use of Latest Published Codes Problematic

  A number of recent proposals, like those enacted in the DRRA, are targeted at making buildings more resilient through various avenues, such as providing additional resources for the implementation of building codes post disaster, allowing certain funds to be used for code adoption and enforcement, and requiring repair and rebuilding of federally-assisted facilities to follow certain building codes. Many of these efforts are predicated on requiring the use of "latest published editions" of certain codes or standards. This is unnecessary and creates a number of challenges.

First, homes designed and constructed to the national model building codes are built to withstand damage from disasters and already provide substantial resiliency for many high-seismic, high-wind, heavy snow, wildfire and flooding events while maintaining housing affordability. Because modern codes already are resilient, increasing the stringency is not necessary.

Second, it is not clear that this definition recognizes and accommodates the different risks, building technologies and landforms that occur across the country or specifically allows the model codes to be amended. State and local governments play a key role in the building code adoption process and determining the value of and need for each model code requirement. This is done through a thorough consideration of the code's applicability within the jurisdiction, along with costs, technology, and resources, among other factors.

Because many states and local governments don't fit the mold of the national averages reflected in the model codes, they frequently find the need to amend the model codes prior to adoption. They do so by adding, removing, or revising provisions so that the codes better fit the construction practices and techniques, geography and risks, and economic and market conditions within the region. If they were unable to make these vital changes, state and local governments would be stuck trying to fit the square peg of national codes into the round hole that represents local conditions. Equally problematic, doing so would impose numerous unnecessary requirements on builders – requirements that translate into higher costs for buyers.

Third, each state and local government follows its own code adoption, implementation, and enforcement processes and has limited dedicated resources, which may not be conducive to adopting the latest published codes within expected timeframes. Evaluating and adopting a new building code is a time consuming and costly undertaking – a multi-step process that oftentimes requires state legislative, as well as administrative action.

Recognizing the level of effort required to update the codes, coupled with resource constraints and the controversial changes made to the codes in the past, many state and local governments have elected to follow a six-year or longer cycle for updating their building codes instead of a three-year cycle. In this way, they are able to maintain building safety without compromising their ability to oversee, administer and enforce the requirements or keep up with emerging technology.

Given these realities, mandating the adoption of the "latest published editions" creates an unintended disadvantage for many states and localities that, under other measures, would be considered fairly up to date in maintaining their codes (e.g., following a standard and predictable process and timeline).

- States are Already Taking the Lead

For decades, state and local governments have been responsible for evaluating each new edition of the model consensus-based building codes and determining which provisions are applicable within their borders. Some states make few changes to the model codes, others hand-pick the provisions and/or amend certain requirements, and others use the model code as a baseline to create their own state-specific code.

Under this rubric, Nevada is free to identify the risks it faces and adopt the codes that are best suited to its locale, geography and economic conditions, while North Carolina is able to do the same. In fact, the model codes are intended to be tailored and amendments are made to nearly every code that is adopted at the state or local level, whether it applies to only the administrative requirements or major rewrite of the entire document.

For example, North Carolina adopted its 2018 building codes based on the 2015 I-Codes on January 1 of this year with 38 pages of amendments. Similarly, Nevada adopts the building codes at the local level, but collaborates statewide on the amending process and had 14 pages of amendments on the residential code alone. State and local governments take their building code adoption and enforcement responsibilities seriously, as demonstrated by the time and effort spent on tweaking and tailoring the codes to get them right. Federal intervention into this process is neither prudent nor necessary. Any federal intrusion into this process could have a dramatic impact on each state's ability to implement the codes that best fit their jurisdiction. Likewise, federal mandates that impose building code requirements across the board will have similar unacceptable results. One reason the codes work is because they can be tailored to local conditions, market forces, and consumer wants and needs. A blanket mandate ignores these factors; a federal mandate is not needed.

- <u>Federal Energy Code Mandates Problematic</u>

Like structural building codes, more stringent federal building energy codes needlessly raise housing costs and fail to reduce energy usage in a cost-effective manner. Therefore, they are unnecessary.

- New Homes Are Efficient

New construction is more energy-efficient than existing construction because of better insulation, energy efficient appliances and HVAC equipment, among other improvements. For example, single-family detached homes built in 2000-2009 on average used about 100.1 Btu per square foot of heated area per year, in contrast to 120.6 Btu for homes built in 1970-1979 and 135.4 Btu for homes built before 1950. Although the size of new homes has increased, the total energy used on heating and

cooling has not, especially when newer homes are compared to homes built before 1950. With the growing interest in voluntary efforts to further reduce energy usage in new construction, overall consumption is likely to continue to decrease.

Despite these gains over time, new homes are still being targeted for increased energy efficiency. This makes little sense because savings will be minimal and doing so will create a host of new problems. The energy codes are nearing a point of diminishing returns in terms of the cost/benefit ratio, meaning that most updates will probably not be cost effective. Further, if policies are adopted that apply more stringent energy conservation requirements to new homes, the cost of these homes will significantly increase. This may encourage people to remain in older, less energy-efficient homes, which would result in higher energy usage, higher greenhouse gas emissions, and lower standards of living, among other impacts – all of which are contrary to the intended goals.

Energy efficiency policies must not inadvertently penalize new construction. Instead of relying on new homes to provide desired use reductions at a cost-prohibitive pace, Congress should focus on increasing the energy efficiency of the existing housing stock because this is where the real energy savings will occur.

- Net Zero is Impractical

Even more problematic than more stringent energy mandates would be any requirement for homes to meet net zero or near zero emissions or energy usage. The current demand for net or near zero energy homes represents a sliver of the housing market. Designed and built to produce as much energy as they consume, net zero homes require careful planning, which increases upfront design and engineering costs. Net zero design also creates further challenges because it uses passive techniques, such as orienting the house to take advantage of the sun for heating and cooling, which requires treating the home as a system instead of discrete elements. This requires additional thought and consideration because changing one aspect of the design may affect another part of the house and additional modifications may be required.

Equally challenging is that to achieve net zero, additional systems must be incorporated, such as solar photovoltaics (PV), solar hot water and special controls for heat pumps to maintain needed comfort levels. Other aspects typically include highly-efficient windows, lighting and appliances. While individually some of these installations may be workable from a cost standpoint, because achieving net zero energy generally requires the installation of most of them, the total costs can be prohibitive. In addition, some of the required elements do not work well in certain geographic regions, so requiring their installation and use would be nonsensical. As a

result, mandating net zero or near net zero is extremely difficult, costly and impractical in most if not all of the country.

While NAHB has long been an advocate for energy efficiency codes that are cost-effective and affordable for home buyers throughout the nation, the energy codes are growing increasingly stringent, increasingly unworkable and marginally cost-effective, at best. Mandating adherence to overly burdensome requirements – particularly for new construction – adversely impacts housing affordability, disadvantages new construction, and may not yield the intended results**.**

NAHB strongly discourages Congress from including mandates, such as building codes or meeting a net zero standard as solutions toward a clean economy. Building codes have little to offer in the form of emissions reductions and can impose significant costs on new home construction, supporting industries, and, ultimately, consumers. Likewise, any other federal initiatives that would impact where or how homes are built would be equally problematic.

State and local governments maintain primary authority over local land use and building practices and no federal policy should change that. In addition to maintaining their self-interests, these entities have the knowledge of local conditions, market and housing needs, risks and opportunities. Rather than impeding this proven system, Congress should support voluntary programs, retrofitting existing buildings, education and other policies aimed at encouraging consumers to improve the performance of their homes and use energy more wisely.

- <u>Voluntary Programs Promote High Performance</u>

NAHB supports climate change mitigation programs that recognize and promote voluntary-above code compliance for energy efficiency and resilience in lieu of mandates because they provide choices, have been proven to produce results, show value to consumers and are cost-effective. In other words, they are driven by the market. NAHB continues to lead the industry in developing and providing solutions to facilitate and promote the use of voluntary means to update the housing stock.

- Respond to Market Demand

Because one size never fits most, it is important that builders, home buyers and homeowners have choices when it comes to finding strategies to reduce energy usage or increase the resiliency of their homes. As such, one reason NAHB strongly opposes federal mandates is because they fail to take into account the needs or desires of consumers and others, and typically lack the flexibility needed for realistic, widespread application. Flexibility allows builders to choose the specific efficiency component(s), program or green certification that best suits their needs and the

desires of the home buyers based on their ability to afford and willingness to pay. In other words, having options versus requirements allows the market to function as intended.

As a result, voluntary, above-code programs such as ENERGY STAR for homes, DOE's Better Buildings program, the ICC700 National Green Building Standard, Leadership in Energy & Environmental Design (LEED) Resilient Design Pilot credits, RELi 2.0 pilot, FORTIFIED Home and the U.S. Resiliency Council (USRC) rating all have widespread participation.

Numerous similar initiatives have also been successful and many homeowners voluntarily take steps to improve their home's performance on their own. The popularity of these programs has led to proven track records in reducing energy usage and/or improving home resiliency. For example, over 190,000 units have been certified to the ICC 700 National Green Building Standard to date; more than 98,000 ENERGY STAR certified single-family homes and multifamily units were built in 2018 alone, for a total of nearly 2 million homes since 1995; and 10,700 homes have the FORTIFIED designation.

In addition to increasing resiliency and energy efficiency in residential structures, these programs provide value to consumers through decreased energy bills, insurance discounts, peace of mind and other benefits. The many choices also allow stakeholders to pick and choose the specific elements that fit their needs and budgets, which make voluntary alternatives inherently cost-effective. Consumers are taking notice. NAHB's recent What Home Buyers Really Want survey found that energy-saving features, such as ENERGY STAR appliances, windows and whole house certification are among the most-wanted home features. Clearly, voluntary, above-code federal programs that allow for competition and choice in the market are in demand and thriving. The broad participation in these programs demonstrate that mandates are unnecessary and Congress should not upset this established market.

- Provide Cost-Effective Options

NAHB continues to lead the way to improve energy efficiency and resiliency in the residential sector for new and existing homes through two specific efforts – the ICC 700 National Green Building Standard and the Retrofit Tech Notes.

In 2008, seeing the value of providing our members and others with a measurable and recognized way to build sustainable homes, NAHB launched the development of a green building standard for residential buildings, now known as the ICC 700 National Green Building Standard (NGBS). The NGBS is an affordable yet rigorous standard that applies to all types of residential buildings, from single-family homes to multifamily buildings of all sizes, retrofits and land development. It focuses on

energy efficiency, water conservation, resource conservation, indoor environmental quality, site design and homeowner education and is the basis of a national certification program administered by the Home Innovation Research Labs.

This rigorous certification requires buildings to improve in every category to achieve a higher certification level. The NGBS is also the first and only residential green building standard approved by the American National Standards Institute (ANSI), which guarantees that the NGBS was developed using a true consensus process.

The NGBS continues to evolve and is updated on a continuous basis to quickly respond to new solutions and innovations in design, materials, technologies, commissioning, building operation strategies, market preferences, financial transactions, etc. The NGBS is directly tied to the national building codes published by ICC to ensure compatibility and seamless implementation by all stakeholders, including developers, designers, jurisdictions and building operators. The upcoming 2020 edition of the NGBS is expected to be released in early 2020. The NGBS has proven to be a useful and relied-upon voluntary option for green building and increasing energy efficiency and resiliency in the residential sector.

Although the NGBS can be used for retrofits, many households do not have the interest or means to conduct the larger scale renovation projects to which the NGBS may apply. Recognizing this challenge, NAHB, in concert with FEMA, the International Code Council, and the Insurance Institute for Business & Home Safety, is developing a series of Tech Notes that describe different types of retrofit techniques that can be used to increase the resiliency of existing buildings.

Importantly, these will focus on strategies that require minimal costs (preferably less than $1,000 for a typical home) but have a significant impact on reducing damage. The first six topics include sealed roof decks, attachment of roof coverings, flashing and sealing of roof penetrations, use of hurricane shutters, use of impact resistant doors and methods of preventing ice dams. It is hoped that these new resources will help homeowners understand their options, recognize that certain mitigation options can be cost effective, and compel them to take action. The first set of Tech Notes is scheduled to be completed by early 2020.

NAHB continues to demonstrate its commitment to increase the performance of homes through the development of these resources. We strongly urge Congress to recognize and promote voluntary, market-driven, and viable green building, high performance and resiliency initiatives. Unlike mandates, these programs can promote lower total ownership costs through utility savings as well as provide the flexibility builders need to construct homes that are recognized as being cost-effective, affordable and appropriate to a home's geographic location.

- Incentives are Crucial to Success

Incentive programs that offset the increased costs for above-code and mitigation activities are an important tool to reduce the barriers that many energy efficiency and resiliency opportunities pose and encourage more homeowners to invest in home modernization. For example, due to the high initial costs associated with purchasing and/or installing certain energy efficient features, many homeowners are unable to finance desired or necessary upgrades and, without assistance, would likely forego the improvements. Incentives that are available at the federal and state levels, as well as those that could be offered through the real estate valuation and transaction processes, can address this issue, produce results and have proven to be attractive alternatives to mandates.

- Federal Incentives

Congress has taken a number of steps to alleviate the challenges associated with funding retrofits and energy efficiency upgrades. The most prominent are federal funding for pre-disaster mitigation and tax incentives**.**

The DRRA includes a number of actions related to improving the ability of existing structures to withstand catastrophes, including the creation of the National Public Infrastructure Pre-Disaster Mitigation Program. States and tribal governments that have received a major disaster declaration in the past seven years will be eligible to competitively apply for these grants, which estimates suggest could range from $800 million to $1 billion annually. NAHB asserts that increasing the resiliency of the existing housing stock would be a prudent use of this funding stream.

Tax incentives are also a proven way to realize results and, in fact, are the most effective at advancing energy efficiency improvements. Sections 25C for qualified improvements in existing homes (building components), 45L for new homes and 179D for commercial buildings have permeated the market and assisted many families and building owners to invest in efficiency. Not only does this reduce energy consumption, NAHB estimates that for every $100,000 spent on remodeling, 1.11 full-time equivalent jobs are created. The remodeling activity generated by the 25C tax credit in 2009 was associated with over 278,000 full-time jobs. Unfortunately, because these tax incentives keep expiring and being retroactively renewed, the positive impact of these incentives has decreased since 2011. Continuing and expanding programs like these, which have demonstrable results, will compel more homeowners to take positive actions.

- State Incentives

States can also play a role in enticing positive behavior. One alternative that has been used in several states is providing insurance discounts to homeowners who conduct

specific activities. In Texas, the state's hurricane insurance pool, the Texas Windstorm Insurance Association, offers premium discounts of 19 percent to 33 percent for building code compliance. In Rhode Island, insurers are required to waive the hurricane deductible for insured homeowners who voluntarily implement mitigation measures that are specified in the insurance regulation. In Alabama, tax credits of up to $3,000 are available for retrofitting a taxpayer's legal residence to make it more resistant to hurricanes, tornadoes, other catastrophic windstorm events, or rising floodwaters.

In addition, the Alabama State Legislature established the Strengthen Alabama Homes Act in 2011 to provide grants to qualified homeowners to retrofit their homes to reduce property damage caused by hurricanes or other catastrophic windstorm events. Currently, the response to the program has been so overwhelming that the program administrator has temporarily stopped taking new grant applications.

Clearly, these state programs have proven to be popular, as they provide value through loss reduction, yet enable and facilitate broader participation through reduced costs. The recognition and expansion of programs like these is one way to engage participation while offsetting the hefty costs associated with upgrades.

- Other Incentives

There are a number of other opportunities to facilitate, incentivize, and offset the costs of voluntary above-code construction and/or pre-disaster mitigation that could be achieved through public-private partnerships and other collaboration. These options include modifications to property valuation and financing protocols; loans, grants and other funding programs; and insurance premium reductions within the National Flood Insurance Program (NFIP), among others.

Under current practice, in most instances, mortgage companies, appraisers and real estate professionals do not consider the costs or benefits associated with various resiliency or energy efficiency upgrades. This creates a disincentive to take proactive steps to reduce a home's exposure, as those expenditures are not necessarily considered to add value. If the improvements are not included in the appraisal or appraised value of the structure, not only is the buyer uninformed about the home's qualities, his or her willingness to pay more can be significantly diminished.

In an effort to spur private investment in efficiency and resiliency, the value and benefit of above code practices and mitigation measures should be incorporated into standard real estate lending practices and real estate listings. By recognizing and valuating the upgrades, appraisers can consistently give weight to these improvements, lenders may reconsider qualifying loan ratios, realtors can promote their benefits, homeowners would get assurances that the investments they have made

will retain value and be recognized in resale and homes would be more likely to get the upgrades needed to improve their performance.

Similar to the valuation process and state insurance discounts, recognizing improved resiliency can also be done by tweaking the NFIP. Currently, all improvements to fortify a home against flood hazards do not result in flood insurance premium discounts. For example, in its "Reducing Flood Risk to Residential Buildings That Cannot Be Elevated" document, FEMA outlines several alternative actions that can be taken in lieu of elevation. Of the measures discussed, however, only 50 percent of them are eligible for flood insurance premium reductions.

This limitation clearly registered with homeowners because FEMA's Office of Flood Insurance Advocate, in its 2017 Annual Report, identified customer frustration with the inability to obtain reduced premiums after conducting certain mitigation activities as a problem. More confounding is the fact that some of the projects identified in the report were undertaken through a qualified FEMA Hazard Mitigation Assistance grant. Clearly, changes to the NFIP that recognize, allow and credit homeowners who take any of the suggested steps (and others) could go a long way toward improving resiliency.

Incentives are a proven way to drive efficiency and improve home performance while preserving housing affordability. Congress is urged to retain and expand the current offerings and work collaboratively with state and local governments and the finance, insurance and real estate industries to offer additional ways to recognize and offset the increased costs associated with many energy efficiency and resiliency designs, techniques and construction practices.

Conclusion

NAHB is committed to working as a partner with all levels of government to encourage energy efficiency and resilience. However, housing affordability cannot be jeopardized in the process. NAHB urges Congress to focus on solutions that are market driven, such as above code voluntary programs and other incentives, and to focus on increasing the energy efficiency and resiliency of the existing housing stock. Any federal mandates or further push to require the adoption of more stringent building codes is unnecessary, may not achieve the intended results and will prevent healthy competition in the marketplace. NAHB looks forward to working with the committee to find reasonable ways to increase community resilience and move the nation to a clean energy economy.