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Committee on Ways and Means

RE: The Economic and Health Consequences of Climate Change
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Members of the Committee, thank you for the opportunity to speak with you today about the importance of adaptation to prepare for the adverse effects of future climate conditions. My name is Roy Wright, and I am President & CEO of the Insurance Institute for Business & Home Safety (IBHS). IBHS is a 501(c)(3) organization, enabled by the property insurance industry's investment, to fund building safety research that leads to real-world solutions for home and business owners, helping to create more resilient communities.

Severe weather disrupts lives, displaces families, and drives financial loss. IBHS delivers top-tier science and translates it into action so we can prevent avoidable suffering, strengthen our homes and businesses, inform the insurance industry, and support thriving communities.

The forces of Mother Nature will not be constrained, yet much of the damage caused by severe weather is avoidable. If the devastating hurricanes, wildfires, and other disasters of 2017 made the case for resilience, those of 2018 underscored the urgency of IBHS' mission.

The perils we study at IBHS are part of the natural world in which we live, but social and economic disasters occur when these perils meet human populations that live or work in harm's way. In order to break the cycle of destruction, it is essential to address all aspects of the building performance chain: where you build, how you design and construct, and how well you maintain and repair. As a building science institute, IBHS focuses on the ways that weather behaves, what makes homes and businesses vulnerable, and how our buildings can be better protected. We exist to help ensure that the places where people live, learn, work, worship, and gather are safe, stable and as strong as the best science can equip them to be.

The Importance of Adaptation

The goal of climate change adaptation is to take actions *today* to reduce losses *tomorrow*. Recognizing that we can't predict specific weather events next month, much less over the next several decades, IBHS knows that putting proven building science solutions in place now will reduce disaster losses in the future. Given its important societal and economic benefits, adaptation is a sound fiscal strategy, public health objective, and humanitarian obligation.

From a Ways and Means Committee perspective, adaptation is likely to result in significant long-term savings, including reduced public sector response and recovery costs. According to the

recent study by the National Institute for Building Sciences (NIBS), federal grants made by the Federal Emergency Management Agency (FEMA), Economic Development Administration (EDA) and Department of Housing and Urban Development (HUD) resulted in a national benefit of $6 for every $1 invested. NIBS also found using the latest model building codes, and designing new structures to exceed select provisions of those model codes, were all cost effective strategies that provided very significant savings, along with other tangible benefits. These benefits inure to all taxpayers, regardless of where they live.

And, focusing on the subject of today's hearing, the same actions that protect our economic health also protect the environment, by reducing the massive amounts of post-disaster debris that can overwhelm landfills and lessening the release of carbon dioxide and other greenhouse gases generated when buildings burn.

Driving Down the Cost Curve

In order to prioritize our efforts on the initiatives that best advance our mission, IBHS thinks about this question through three lenses: Lead with the Roof; Solve with Research on Vulnerability and Loss; and Prevent Avoidable Damage.

1. Lead with the Roof

When you think about a home, "having a roof over your head" is the most basic level of need. Yet this protection can be threatened by severe weather. When roofs fail, they can kick-start a cascade of failures such as water infiltration, projectile damage, and destruction of rooftop equipment, resulting in as much as 70-90 percent of insured residential losses from some disasters. As startling as these insurance statistics may be, they fail to capture the broader human consequences resulting from roof failures—damaged homes and businesses that disrupt daily life, break up families, derail careers, and destroy financial security.

To end this path of destruction and dislocation, IBHS's highest priority is to understand what makes roof systems vulnerable and how roofing materials, their supply chain, and installation methods can be improved to reduce roof-related damage. One way to achieve this is by applying tape over all horizontal and vertical joints before underlayment is applied to roof decking (this is called a "sealed roof deck"). The process adds several hundred dollars to a typical roofing installation but can save tens of thousands of dollars in the event the roof cover is blown off during a high wind event. The sealed roof deck is the most cost-effective and accessible component of the FORTIFIED building standard developed by IBHS to provide design and construction specifications for home- and business owners who wish to improve their resilience beyond the mandatory levels outlined in state and local building codes. IBHS also believes that these building codes would be improved by incorporating a cost-effective sealed roof deck requirement. Similarly, wildfire codes should reflect best practices to resist ignition through the roof system.

From a communications perspective, it is important to educate home and business owners to pay more attention to their roof and to understand how to extend its life and reduce the likelihood of

storm-related damage. IBHS knows that small investments today can prevent large losses in the future—but we have to find ways to get people to pay attention and take action.

2. Solve with Research

The core perils studied at the IBHS Research Center are wind, wind-driven rain, hail, and wildfire, all relevant to today's hearing because they could become more destructive in a changing climate. The design of our Research Center—with 105 fans capable of generating wind speeds approximating the gusts of a Category 3 Hurricane—provides unique capabilities to replicate real world weather conditions. We also have made significant, long-term investments in equipment that allows us to create the ember showers that are the leading cause of home ignitions from destructive wildfires. And, we have developed a unique capability to replicate the density, hardness, and kinetic energy of natural hailstones in order to assess the durability and damageability of asphalt shingles and other products. IBHS' best-in-class science fills knowledge gaps to achieve significant social and economic benefits across all regions and demographics of America.

IBHS brings the ability—through experimental testing, field research, and analytics—to understand the pathology behind the damage caused by our core perils and identify where building protection strategies can have a real-world impact. To reduce damage, we need to understand it. In this regard, observing damaged homes and businesses—whether during post-event field investigations or through other external data sources such as aerial imagery—helps IBHS to identify vulnerabilities and design experimental testing to more fully understand the sequence of events that leads to damage. Results captured in the lab are coupled with data gathered in the field to understand and demonstrate what makes buildings vulnerable, cost-effective ways to prevent damage, and how to reduce loss when damage cannot be fully avoided.

In choosing specific research projects, we are driven by our mission of translating our research into action. That means that we choose science that can shape building codes and standards, evolve our FORTIFIED program, influence building professionals and products, improve consumer choices, and advance public policy. At a fundamental level, consumers deserve to have confidence that the time and financial investments they make in resilience will live up to their reasonable expectations. Our research demonstrates that home and business resilience is available at a range of price points, and that poor choices or inaction can result in damage or destruction when severe weather strikes. Over the longer term, understanding the importance of resilience as part of climate change adaptation will amplify our research for future generations.

3. Prevent Avoidable Damage: Public Policy Levers

At IBHS, we call this "narrowing the path of damage." For example, the zone of the strongest winds in a Cat 4 hurricane will cause destruction, yet the damage that occurs in 100, 110, or 120 mph wind bands can be significantly reduced. Similarly, the areas of EF3, EF4, and EF5 damage in the strongest tornadoes will see destruction, yet damage in the bands of EF0, EF1, and EF2 winds can be reduced by building better.

Building codes are an important part of this focus. Historically, codes focus on life safety, but through proper application, they also can reduce the disruption natural hazards have on our lives. Yet, there adoption and enforcement are not uniform across the country, or in some of our most hazard-prone states.

For example, our research has identified adaptation measures that can help leverage federal, state, and local resources directed toward adaptation. Last year, Congress enacted two pieces of legislation to advance this approach by recognizing the need for long-term investments to reduce the severity of disasters and the amount of taxpayer funds directed toward recovery.

- The Bipartisan Budget Act of 2018 included new cost-share incentives for states to invest in resilience. Prior to the new law being passed, the Stafford Act generally provided a 75% federal share for state assistance and reimbursement. The new mitigation provision amends the Stafford Act to provide an increased federal share (up to 10 percent more) to states and territories that undertake eligible mitigation actions, such as: adopting current building codes, developing an approved mitigation plan, investing in insurance, participating in the Community Rating System, and/or providing financial incentives for mitigation projects like tax breaks or credits. The increased federal cost-share incentive will be implemented using a sliding scale.

- The Disaster Recovery Reform Act (DRRA) of 2018 creates several new mitigation policies, such as:
  - Allowing states and local governments to use FEMA Pre-Disaster Mitigation (PDM) grants to facilitate the adoption and enforcement of building codes.
  - Incentivizing states and local governments to adopt the latest model code.
  - Authorizing the President to set aside six percent of the total amount of disaster recovery grants awarded from the Disaster Relief Fund, for deposit into FEMA's PDM fund. The new funds represent a *fundamental shift* in the way the federal government prepares communities for future storm events.

As important as these federal measures are, they will not advance adaptation unless states understand how these funds can be applied to make homes, businesses, and communities less vulnerable to the severe weather scenarios that play out at the IBHS Research Center. It is critical to connect the dots between these new federal grant opportunities and bricks and mortar state programs that can strengthen the built environment for the future. We have partnered with the BuildStrong Coalition to provide technical assistance in making these connections.

The DRRA, once fully implemented, will deliver the largest investment by the Federal government to buy down the risk of natural disasters prior to the devastation occurring. While the advancement, enactment, implementation, and oversight of the DRRA are ably handled by the House Committee on Transportation and Infrastructure, there are significant opportunities within the purview of the Committee on Ways and Means.

Yet resilience and adaption can't be financed by the government alone. That's neither feasible nor responsible. We must drive individual homeowners and businesses to make their own

investments to reduce the impacts of disaster. Maybe one of the most promising federal approaches is the use of tax credits to provide incentives for resilient building or retrofitting.

The proposed Disaster Savings and Resilient Construction Act would provide a tax credit to home or commercial building owners to help offset effective resiliency upgrades in federally declared disaster areas. Variations of the legislation have been introduced in 2012, 2013, 2015, and 2018. To be eligible for the credit, a homeowner or commercial property owner must build or rehabilitate using the IBHS FORTIFIED Home or FORTIFIED Commercial standard. In the case of qualified residential property, homeowners can receive up to $3000, and in the case of qualified commercial property, building owners can receive up to $25,000. Although the bill has not yet been introduced in this Congress, similar bills in previous Congresses were projected to save taxpayers millions of dollars over a 10-year period.

The inspiration for this legislation residential energy efficient tax credit which has been in place for about a decade. While both of these credits are relevant to a hearing focused on climate change, a new homeowner disaster resilience credit has added potential to reduce federal post-disaster payments. It also can provide an important incentive to building owners who persist in the belief that adaptation investments are unnecessary because "it can't happen to me." What better pathway to reducing this growing risk than Americans taking specific, impactful steps to their own home? It not only has the potential to minimize the impact of disasters and alleviate the inevitable displacement that occurs when a home is turned upside-down, it will alleviate some of the growing pressure for Federal dollars to rebuild communities after catastrophic events.

Finally, at the Federal Emergency Management Agency, where I worked prior to joining IBHS, we launched two ambitious Moonshots to close the protection gap that leaves too many people unprepared for, and unprotected against, severe weather. The first Moonshot strives to double the number of policyholders with flood insurance, and the second, to quadruple mitigation investment nationwide. Achieving and sustaining these goals is critical to long-term adaptation and protection of homes and businesses in the face of climate change. Both of these Moonshots address the protection gap that leaves too many people vulnerable. Homes, businesses, and communities must be strong enough that disasters cause less damage—and they also need adequate and appropriate insurance so they can recover more quickly following their worst disaster day.

In closing, I would like to thank you for the recognizing the importance of climate adaptation and the critical role IBHS research plays to help strengthen the built environment. Americans are not powerless against severe weather—it *is* possible to reduce the damage inflicted today and in the future. We know it is practical, affordable, and just plain good sense to construct and retrofit buildings to be strong enough to defend against these threats. I appreciate the opportunity to share some of our ideas with you today.