

## The Honorable Jeff Duncan

**1. Recently, the Environmental Protection Agency (EPA) launched a new Energy Star certification program, targeting new homes and apartments. In addition to appliances, the EPA will now have the authority to certify homes as “Energy Star” Certified. This is far outside the scope of EPA and follows the Biden administration’s climate-over-all approach and is using taxpayer dollars from the IRA to fund it.**

**a. How do you feel about the EPA being given this authority to certify an even more aggressive building code standard in homes and apartments?**

Answer: NAHB endorses viable, credible, and market-driven green-building initiatives, provided they remain voluntary. Over the past few years, the breadth of programs and issues for which more stringent building codes are purported to be the answer is raising growing concern. This approach unfairly burdens and disadvantages new construction and often does little to meet the intended goals. To meet our national energy efficiency goals, many have recognized improvements must be made in all sectors and that retrofitting the existing building stock will be necessary. According to the National Renewable Energy Laboratory, upgrades to the existing housing stock could yield a projected reduction of 5.7% of the total annual U.S. electricity consumption in 2030. Given this potential, coupled with the array of options and opportunities that exist to do so (e.g., replace/repair doors, windows, insulation, lighting, appliances; heating and cooling equipment, install energy management systems, heat pump, solar photovoltaics; window treatments, etc.) upgrades to the existing housing stock must be a primary focus if the nation is to make measurable progress.

**2. This program, EnergyStar NextGen, also requires a slew of upgrades and changes that everyday Americans simply cannot afford. One of these upgrades is a transition to an electric heat pump. In Mr. Casper’s written testimony, he spoke about the drastic cost difference (\$13,290 dollars more for electric) between a gas furnace and an electric gas pump. Another requirement is resident electric vehicle charging stations and electric cooking appliances.**

**a. In your testimony you detailed how impractical electric heat pumps are in colder regions of this country. The Biden administration doesn’t seem to care about our friends and neighbors in cold climates who need reliable natural gas. In my opinion, this sounds negligent and dangerous.**

Answer: According to the Home Innovation Research Labs, transitioning homes to fully electric systems involves significant costs that vary widely based on climate conditions, highlighting the financial burden of such a shift as revealed in their comprehensive analysis. For instance, in Houston's warm climate, electrifying a home can cost between \$3,988 and \$11,196. This range accounts for essential upgrades like a heat pump, water heater, and an EV charger circuit at the lower end, escalating to additional features like a cold-climate heat pump upgrade, an extra EV charger, a second electrical panel, and an induction cooktop at the higher end.

The scenario in Baltimore, which has a mixed climate, shows similar initial costs ranging from \$3,832 to \$14,495. These costs mirror those in Houston but extend slightly higher due to the added complexity of climate management.

However, the shift becomes markedly more expensive in colder climates like Denver and Minneapolis, where estimates range from \$10,866 to \$15,100. This increase reflects the necessity for more robust systems capable of efficient operation in frigid conditions.

Further dissecting these costs, the introduction of a high-efficiency 2-stage heat pump and an 80-gallon water heater raises the upfront cost by \$4,745 in Houston and \$4,613 in Baltimore. Opting for an inverter heat pump system elevates the initial expense to \$8,160 in Houston and \$8,131 in Baltimore. These systems are efficient down to 7°F, ideal for warmer to mixed climates.

In stark contrast, colder cities face even steeper costs. For example, a high-end inverter heat pump system suitable for temperatures as low as -13°F can surge to between \$10,524 and \$11,803. Moreover, residents in Denver and Minneapolis not only bear higher initial outlays but also incur increased annual energy costs ranging from \$84 to \$404 compared to standard gas systems, and \$238 to \$650 when compared to high-efficiency gas systems.

These figures highlight the economic challenges of electrification in various climates, particularly the burden on homeowners in colder regions who face both higher upfront costs and elevated ongoing expenses. The analysis emphasizes the importance of carefully evaluating both the immediate and long-term financial impacts of switching to electric home systems, especially in climates that place higher demands on these technologies.

### **3. What are the limitations for electric heat pumps in colder climates?**

Answer: Most standard heat pumps start to lose their effectiveness to heat in colder climates, that is why they are typically coupled with a natural gas backup furnace. The continued use of fossil fuel may be the only feasible option in certain circumstances and locations. There are heat pumps that will keep up with heating loads in colder climates, but they come with very high upfront costs.

### **4. What impacts will these forced transitions have on our friends and neighbors in colder climates who need natural gas?**

Answer: Because electrification can result in both increased first costs and higher utility bills, electrification will place additional burdens on the consumer, making housing less affordable. A study conducted by the Home Innovation Research Labs in 2021 found that the additional up-front cost to build an all-electric house (as compared to a house with natural gas equipment and appliances) ranged from \$3,832-\$15,100 depending on climate zone. Importantly, these estimates do not include fees for upgrading electric service or providing community electric infrastructure, which can be substantial.

### **The Honorable Randy K. Weber**

**1. I am extremely concerned about the attack on the use of natural gas in homes and buildings across our country. Legislation from this committee to protect consumers' choice to purchase gas appliances has passed the House, unfortunately without much support from my colleagues on the other side of the aisle. What are the impacts to future homeowners who may not have access to natural gas in their homes?**

Answer: Electrification mandates can be costly and infeasible in some areas of the country and create challenges for builders, homeowners and consumers. These policies can adversely impact energy supply and demand curves and consumer choice. The recent efforts by federal agencies to consider limiting access to gas stoves ignore consumer preferences and pocketbooks. As home builders, we believe our customers have a right to choose the appliances and energy sources used in their homes. Over 187 million Americans currently use natural gas appliances, saving them an average of \$1,068 each year. Gas stoves are used in nearly 40 million homes nationwide and have proven to be a safe, efficient and affordable appliance choice for families for well over a century. The current push to regulate natural gas use will result in negligible health, safety, and energy outcomes but will drastically limit the ability of homeowners to install and use the appliances of their choice in their homes.

**2. Can you expand on how excessive codes and requirements, such as the 2021 International Energy Conservation Code, actually backfire? Logic would dictate that they limit potential buyers from purchasing new homes, due to increased cost (and reduced affordability); therefore, less energy-efficient homes remain the only viable option for housing?**

Answer: Unfortunately, the federal push to adopt costly and restrictive energy codes is pricing hundreds of thousands of buyers out of the market and putting the American dream of homeownership further out of reach. According to Home Innovation Research Labs, compliance with the 2021 IECC can add \$22,572 to the price of a new home, but in practice, home builders have estimated increased costs of up to \$31,000. Furthermore, it can take as long as 90 years for homeowners to see a payback from this investment. This impact is especially alarming for lower-income families who are already finding it challenging to afford homes. With 103.5 million households—77 percent of all U.S. households—unable to afford a median-priced new home, this steep rise in costs would push homeownership even further out of reach for many Americans.

**3. You mentioned that you build for entry-level home buyers. How might costs of up to \$31,000 more per single-family homes impact your business?**

Answer: The impact on our business is already evident. We've observed buyers choosing to build in communities neighboring Kansas City, MO, where they can purchase the same home for thousands less. If the 2021 IECC becomes the national standard, it could price thousands of potential buyers out of the market. Currently, 77% of Americans are unable to afford a new home. Further additions to the energy codes will only push more Americans out of homeownership.

My business recently constructed two homes with identical floorplans in the same development, one built to the previous energy code (an amended version of the 2018 IECC) and one built to the 2021 IECC. This provided a unique opportunity to perform a detailed comparative energy rating and on-site testing to accurately measure the energy efficiency of each home.

The ratings were conducted by a certified third-party energy rating company to ensure accuracy and impartiality. The results were telling. The older code house had a Home Energy Rating System (HERS) score of 64, and an annual energy cost of \$1,936. The new 2021 IECC-compliant house had a HERS score of 50, and an annual energy cost of \$1,811.

While the home built to the 2021 IECC did show a modest annual energy savings of \$125, the additional costs to comply with the 2021 IECC were substantial. The total cost to the customer was \$12,036 more than the house built to the previous code. With a mortgage, this translates to approximately \$102 per month or \$1,224 annually. The energy savings of \$125 per year are dwarfed by the additional annual cost of \$1,099, leading to an extra \$32,970 over the life of a typical loan.