

#### Introductory slide

- The National Association of Home Builders, teamed with Dodge Data and Analytics, have been **surveying single-family home builders since 2006** regarding their level of green building activity; multifamily builders were added in 2014 and remodelers were added in 2017.
- The results from the **latest survey - conducted in 2019** - are packaged in the Green Single-Family and Multifamily Homes SmartMarket Brief 2020.
- Brief was released at the 2020 International Builders Show
- **Available for free download from the NAHB website at [www.nahb.org/smr](http://www.nahb.org/smr).**

[Cover photo is by Red Tree Builders in the agrihood community of Olivette in North Asheville, NC.]



- **Four 5-8 minute surveys were deployed for this SmartMarket report, covering: market activity | marketing | drivers and obstacles | products and practices**
- Survey was open to general contractors, homebuilders, remodelers and developers from both single and multifamily markets within the United States.
- Basic demographic information was captured and **participants were asked to self-identify their level of green building based on the definition given in the survey**
- There was a total of 2,000 responses across the four surveys, which is about 46% higher than in 2017.
- **Surveys were conducted Fall 2019, prior to the COVID-19 outbreak.** Even though market outlooks, construction practices and consumer preferences will most likely change due to the coronavirus outbreak, these results can be useful for builders as markets begin to open back up. **Consumers have developed a heightened awareness of what works well and what doesn't** after living in their homes for an extended period. They are **likely to place a greater importance on factors like efficiency, comfort and health** when looking to remodel or buy their next home. **These survey results help to identify and build on practices that were prevalent in the market before the outbreak and provide insight into builders' perceptions about the green building market that can be combined with new consumer demands** to help building professionals move forward.

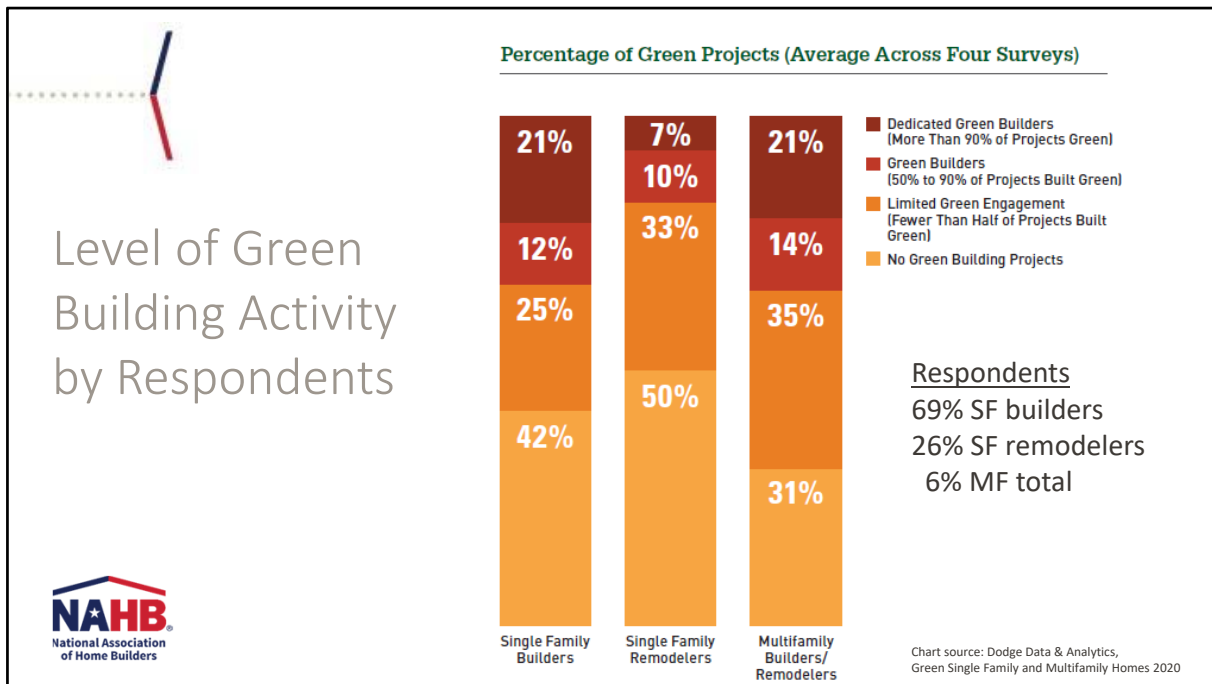
## Survey Definition of Green Building

“A green home incorporates strategies in design and construction that increase energy, water and resource efficiency, indoor environmental quality, and minimize environmental impacts on the site; and/or is certified by a third-party to the National Green Building Standard, LEED for Homes, or any other green rating system.”

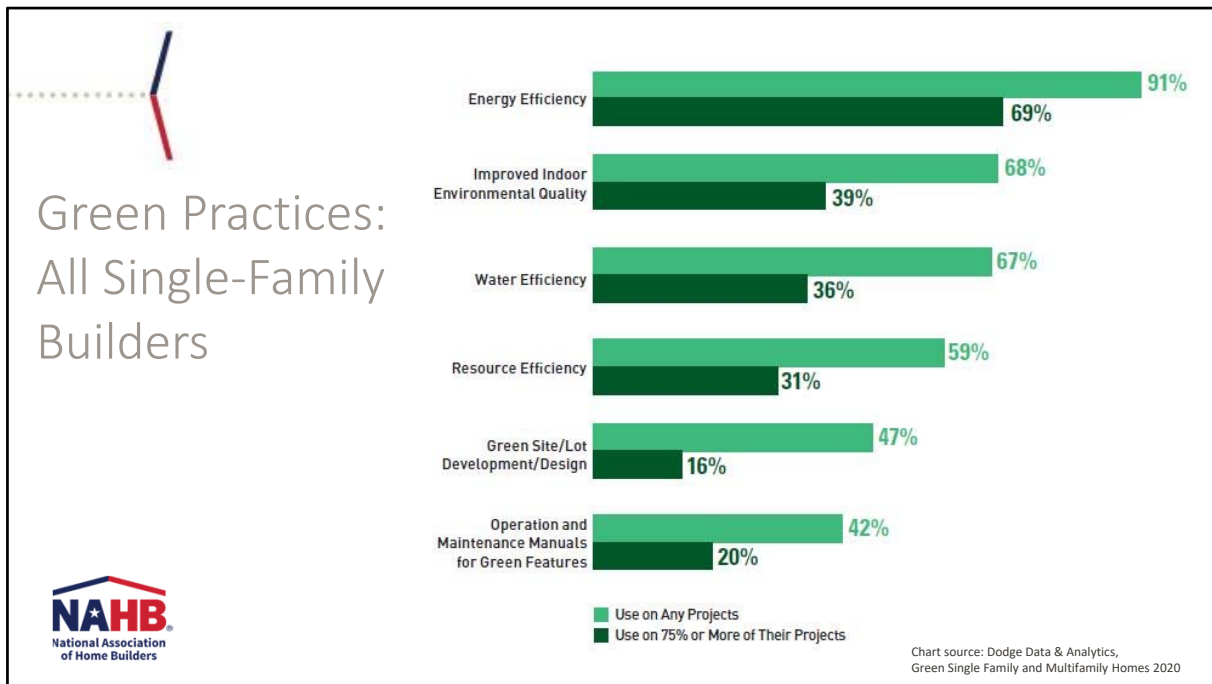


### **Green building was defined in the survey as:**

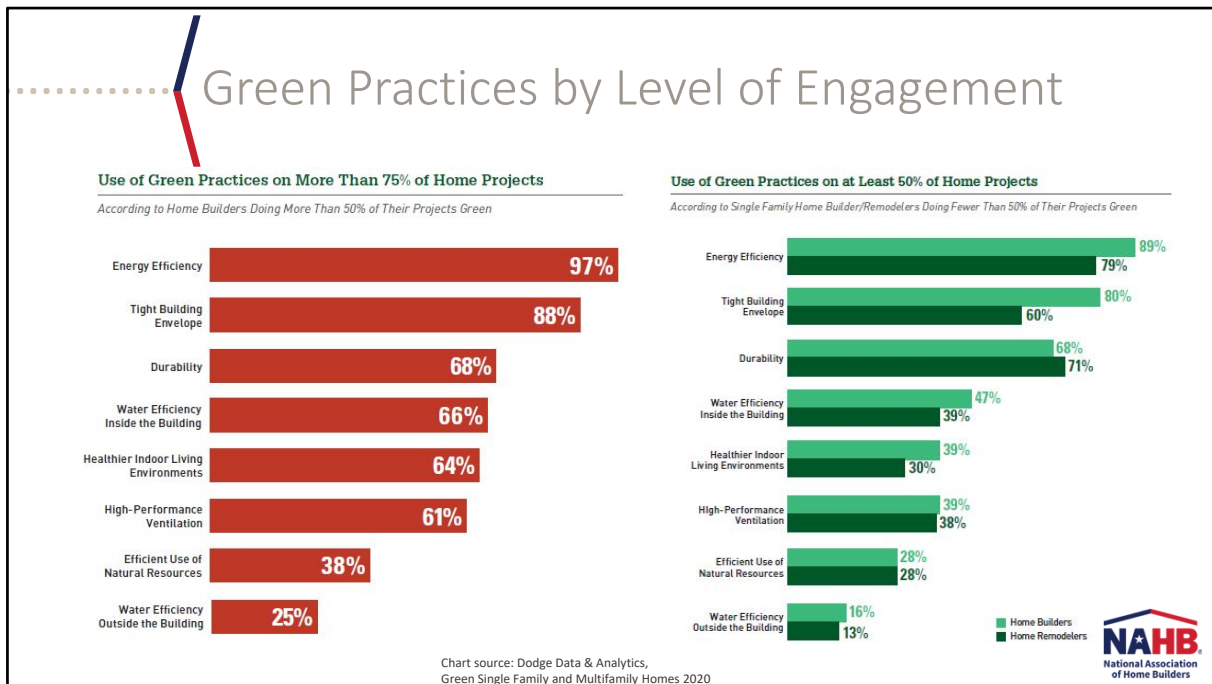
A green home incorporates strategies in design and construction that increase energy, water and resource efficiency, indoor environmental quality, and minimize environmental impacts on the site; and/or is certified by a third-party to the National Green Building Standard, LEED for Homes, or any other green rating system.



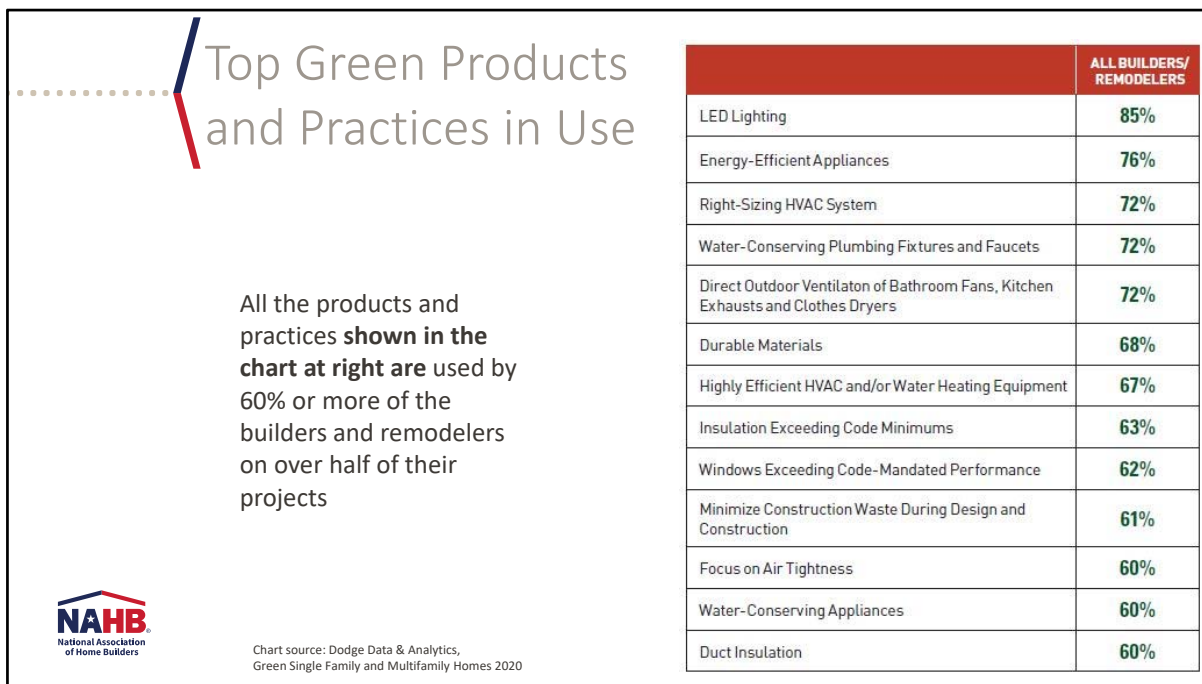
- This **shows a breakdown of the survey respondents.**
- This bar graph shows the **green building activity breakdown by builder type.** For instance, 21% of all single family builders surveyed were dedicated green builders.
- **Some level of green building activity was reported by**
  - 70% of multifamily respondents
  - 60% of single-family builders
  - and 50% of single-family remodelers
- **Those reporting a majority of green projects make up about one third of single-family builders and multifamily respondents.**
- **Survey respondents were 69% SF builders, 26% SF remodelers, 6% MF (builders and remodelers combined)**



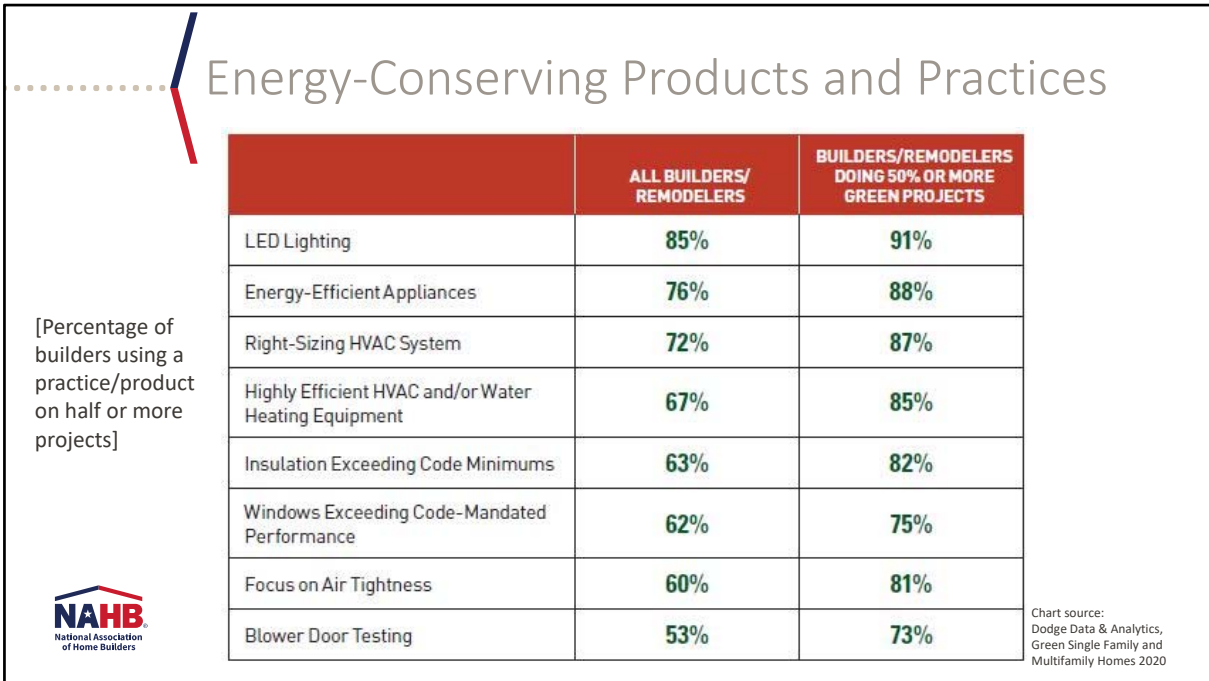
- Looking at market activity, this **chart shows how often builders employ a type of green strategy, as well as how many reported doing so at least 75% of the time.**
- One of the big takeaways of this edition of the survey is that **almost all single-family builders use green practices at least sometimes, and some use them most of the time.**
- **Over 90% of all single family builders use energy efficiency practices on at least some of the homes they build, and over two thirds use them on most projects.**
- **About two thirds of builders are also using practices to improve indoor environmental quality, water efficiency and resource efficiency in at least some of their homes, with about one third using these strategies on most of their projects.**
- So even though two-thirds of single-family builders did not identify themselves as green, with 42% reporting they did no green building projects, **these results show that high-performance, green building practices are regularly used in the single-family market.**



- These graphs compare the use of green practices among different groups of builders.
- The left graph shows what green builders use on at least 75% of their homes.
- The graph on the right shows what the other builders are using on at least 50% of their homes.
- While the question was asked a bit differently, the trends can be seen clearly.
- All builders are using the same high-performance practices, green builders have higher overall engagement rates.
- This information can be useful for **highlighting to consumers practices that add value**, and for targeting aspects that could be included in MLS listings and captured in appraisals to benefit the most builders.

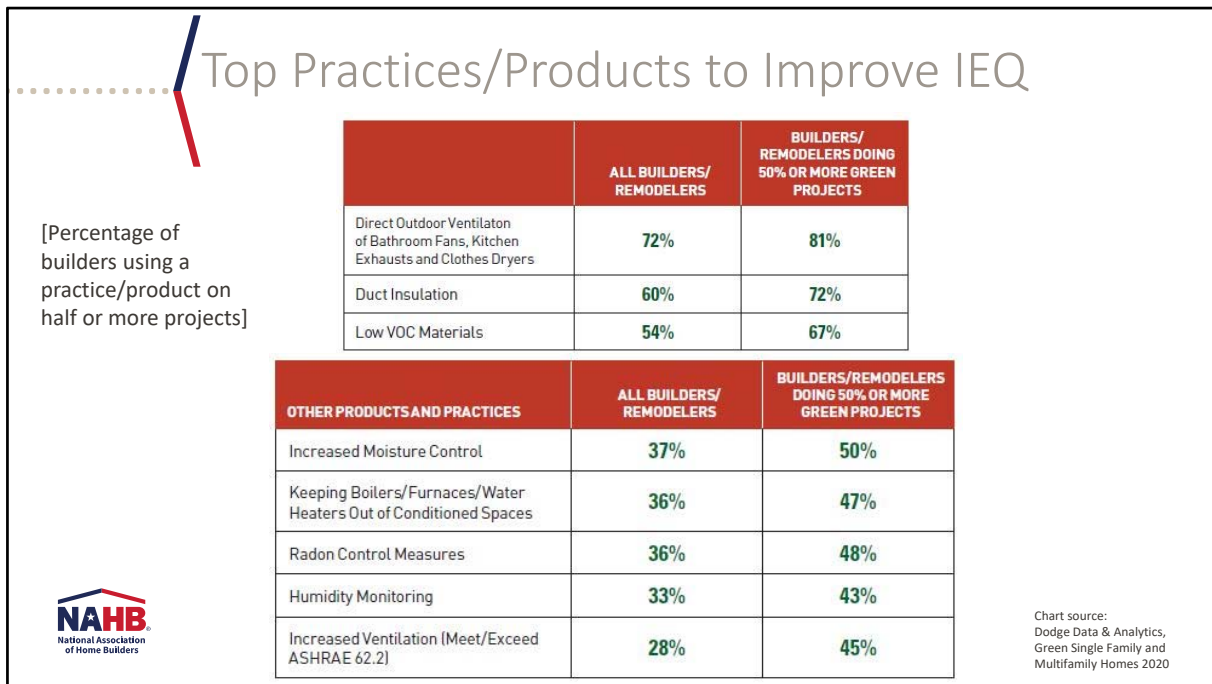


- The survey asked all respondents about the types of products and practices they use on the majority of their projects; **this list shows everything chosen by at least 60% of the respondents.**
- **Energy-conserving products and practices top the list and make up the majority of it,** which is not a surprise given the percentage of respondents consistently ranking energy efficiency both as a top way to improve home performance and being important to their customers.



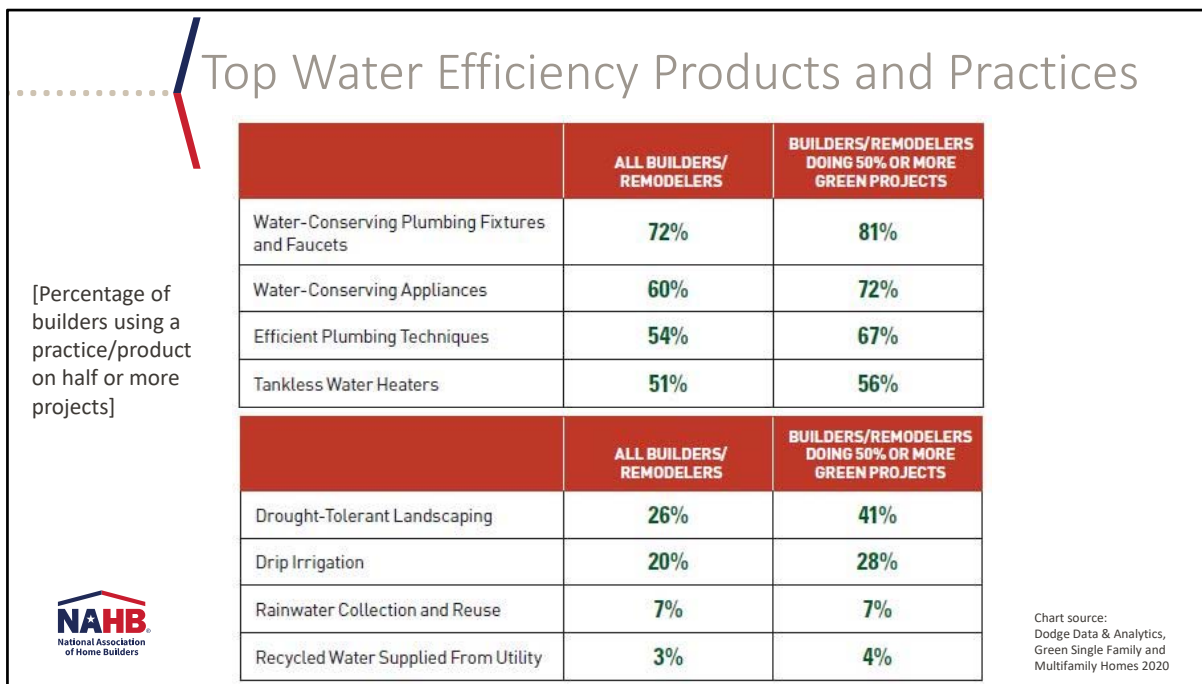
- Here are the **overall top energy-conserving products and practices**, with their use broken out between all respondents and those doing 50% or more green projects.
- **LEDs, energy-efficient appliances and right-sizing the HVAC system are the most popular.** These findings are consistent with previous Green SmartMarket studies.
- Green builders use all of these products and practices at higher percentages, but it is important to realize that **these eight strategies are all are being used by at least half of the respondents on at least half of their projects.**



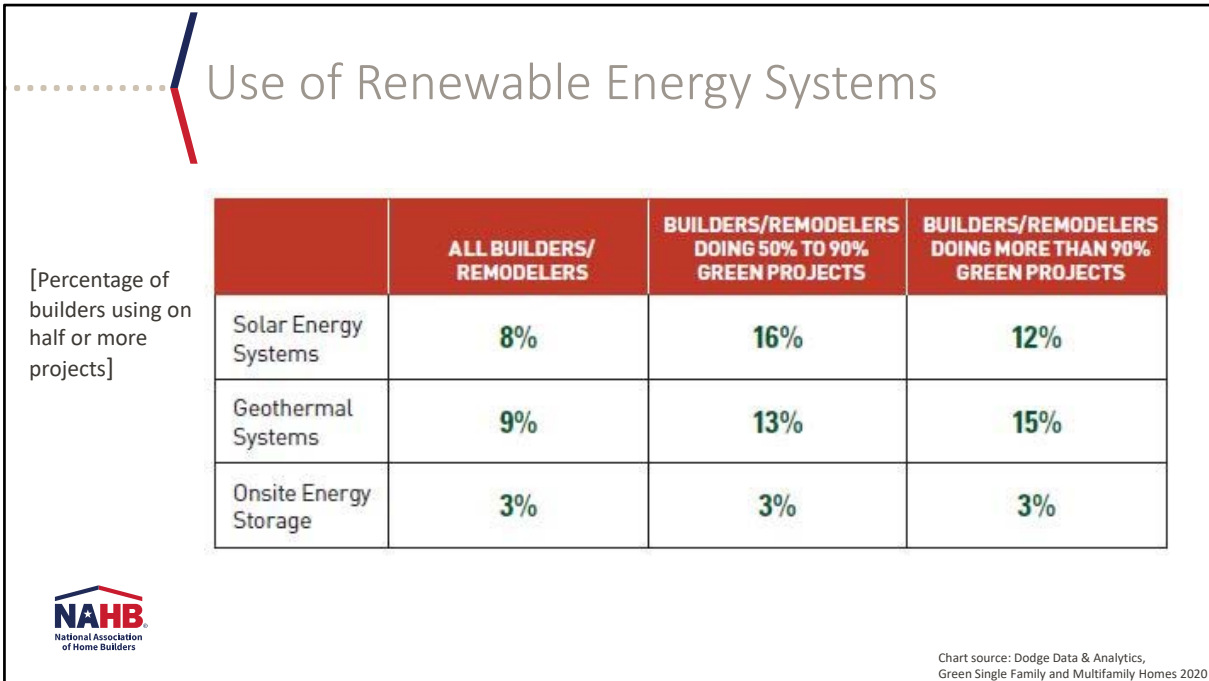


Here are the **top results for strategies focused on indoor environmental quality (IEQ):**

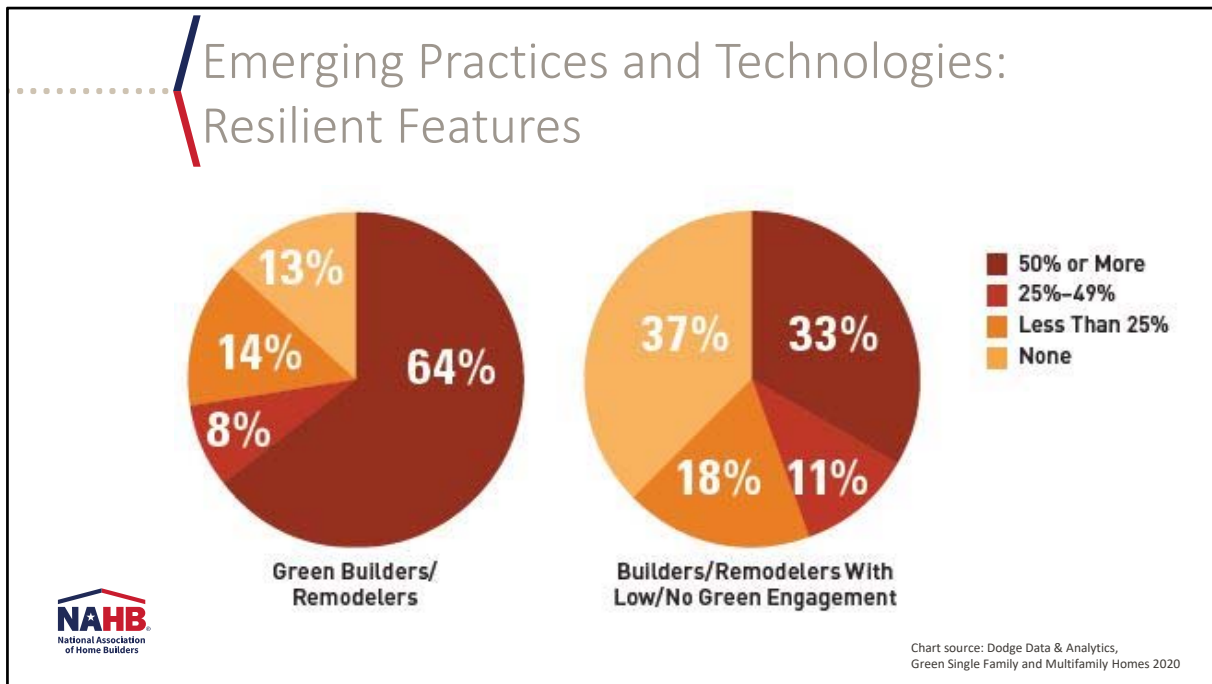
- **The top three – direct outdoor ventilation, duct insulation and low VOC materials, are used by half or more of all builders and roughly three quarters of green builders.**
- The second tier shows products and practices that are **used by about one third of all builders and nearly half of green builders** on the majority of their projects.
- There was a great deal of regional variability in use of increased moisture control (higher in Midwest than West); keeping boilers out of conditioned spaces (21% in Midwest, 40% in other regions); and radon control measures (use paralleled EPA radon maps).



- The **top table** shows indoor water efficiency practices, the **bottom table** shows outdoor.
- **At least half of all builders** are using all of these on at least half of their projects, with higher use rates among the green builders.
- **Outdoor water efficiency products and practices** are used to a lesser extent by all, but also have a great deal of regional variation in their application.
- Use of drought-tolerant landscaping is significantly higher in the West and South, at about one-third, than in the Northeast and Midwest, at 12%. Use of drip irrigation is significantly higher in the West at 44% than in the other three regions, where it ranges from 7% in the Northeast to 11% in the Midwest to 21% in the South.
- The **use of rainwater collection and of recycled water from a utility is still rare**, less than 10% of all builders are using these technologies on the majority of their projects. This will continue to be tracked and use is anticipated to increase as water rates continue to rise and water scarcity is becoming a larger issue, especially in the southwest.

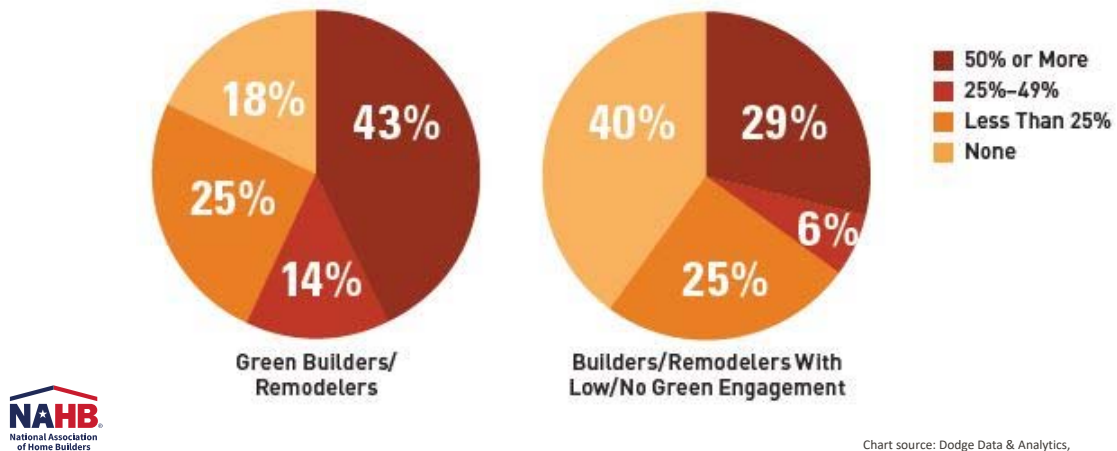


- Builders and remodelers were asked to select the **renewable energy systems they use on at least 50% of their projects.**
- **Less than a tenth of builders reported regularly using these systems** - green builders are utilizing solar and geothermal at slightly higher rates – but the use of onsite energy storage is rare for all respondents.
- This information will be used as a benchmark moving forward.



- Trends in the emerging practices of resiliency and smart homes were also captured in this study as benchmarks.
- The survey asked all respondents “**On what percentage of your total home projects do you use resilient features** to help homes withstand natural disasters (such as flooding and wind events)?”
- **Green builders and remodelers are including one or more types of resilient features in at least some of their projects almost 90% of the time, with 64% using them at least half of the time.**
- This is a **much higher rate of use than participants with fewer green projects** – over one third reported not using resilient features at all.

## Emerging Practices and Technologies: Smart Home Tech for Managing Energy



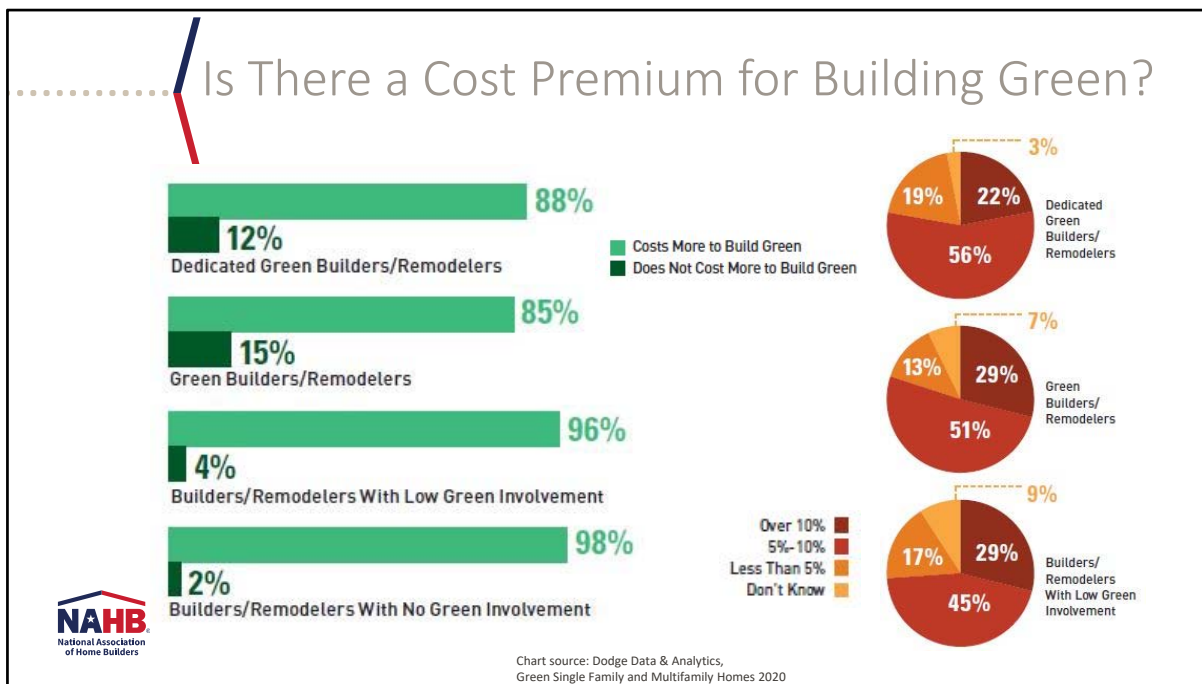
- The survey also asked all respondents **“On what percentage of your total home projects do you incorporate smart home technology for better energy management?”**
- **43% of green builders are using smart home tech on the majority of their projects, 29% of the rest of the builders are also using smart home tech to manage energy on at least 50% of their projects**
- Only 18% of green builders and remodelers aren’t using smart home tech at all, while 40% of the other builders are not.



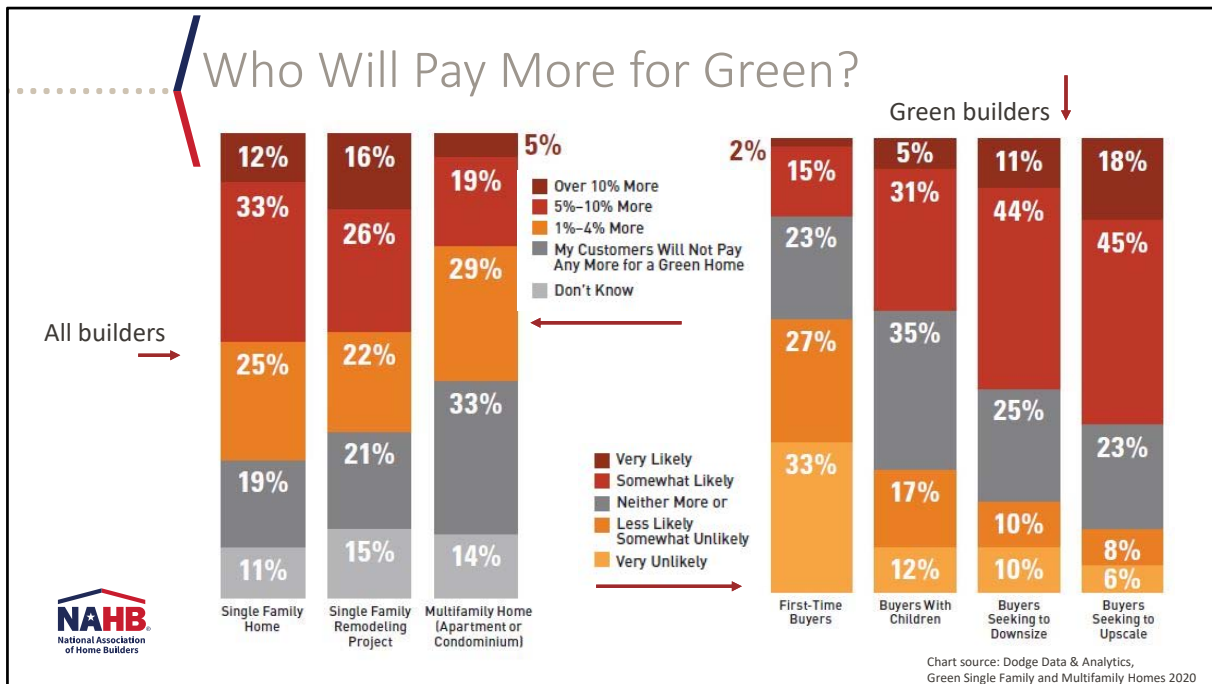
## Marketing Green Homes



The next section focuses on marketing green homes.

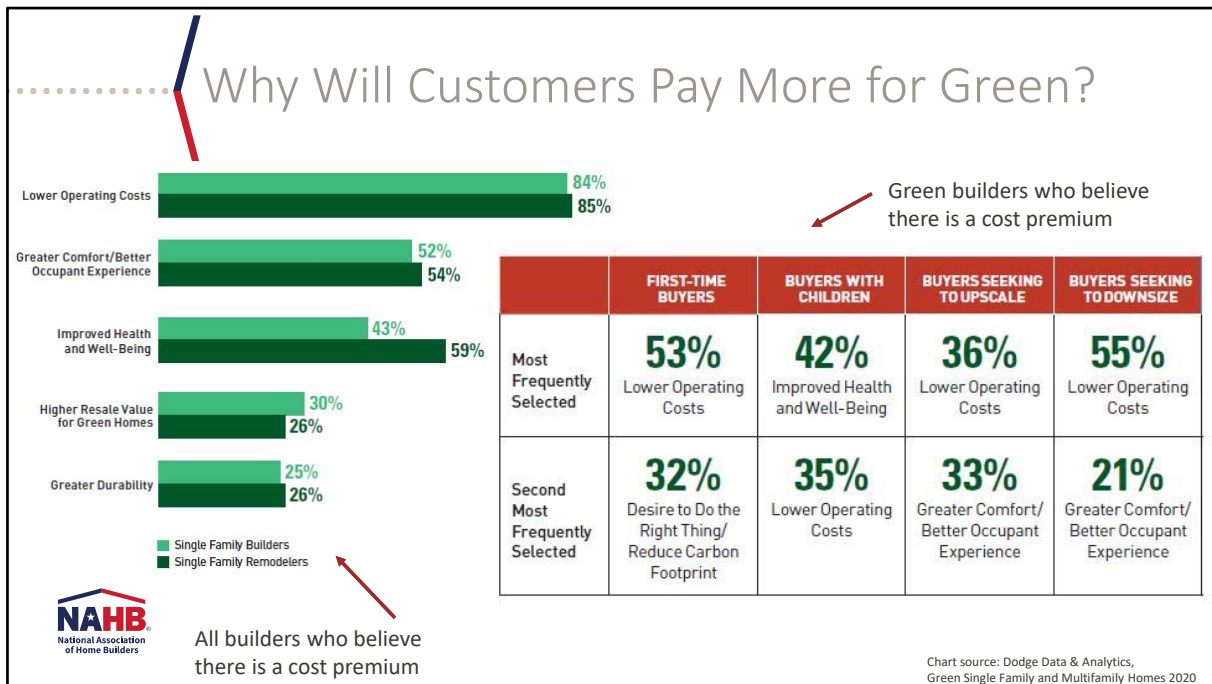


- As seen in the bar graph on the left, **most builders believe building green costs more than building a traditional home** – this finding is consistent with the results of previous Green SmartMarket Briefs.
- The breakdown by builder type reporting they perceive green to cost more (not shown on graph): 86% of single-family builders, 72% of single-family remodelers and 74% multifamily
- However, **15% of those identifying as green builders do not think there is a cost premium**
- This highlights the concept that **once builders conquer the learning curve, have subcontractor teams that are comfortable with and experienced in green building practices, and realize economies of scale where possible, green building can be done cost effectively.**
- The pie charts on the right show the breakdown of, among those who believe it costs more to build green, how much more?  
**About half who believe it costs more report a 5-10% premium and about a quarter believe it costs more than 10%.**



- The general consensus is that builders think green costs more to build.
- Therefore there must be a market willing to pay for that premium in order for builders to be financially successful. The study looked at this a couple of different ways, both of which are shown on this slide.
- All builders were asked how much of a premium they thought customers would pay in the chart on the left.
- About 20% of single-family and 1/3 of multifamily respondents said their customers will not pay any price premium. **Roughly a quarter of all respondents believe a 1-4% premium is obtainable.**
- A third of single-family builders felt they could get 5-10% and 12% thought they can get over 10% - on the last slide we saw that about half thought it costs 5-10% more and about a quarter thought it costs more than 10% more to build – **so respondents are reporting a gap between the cost premium to build and the premium being realized.**
- **Potential ways to close that gap could include:** reducing the premium to build green, shifting the conversation from cost to value, emphasizing the total cost of ownership
- The survey also asked green builders how likely it is for different types of buyers to be willing to pay a premium.
- They reported **first-time buyers are the least likely to pay more, while buyers seeking to downsize or upscale are the most likely to pay a green premium.**



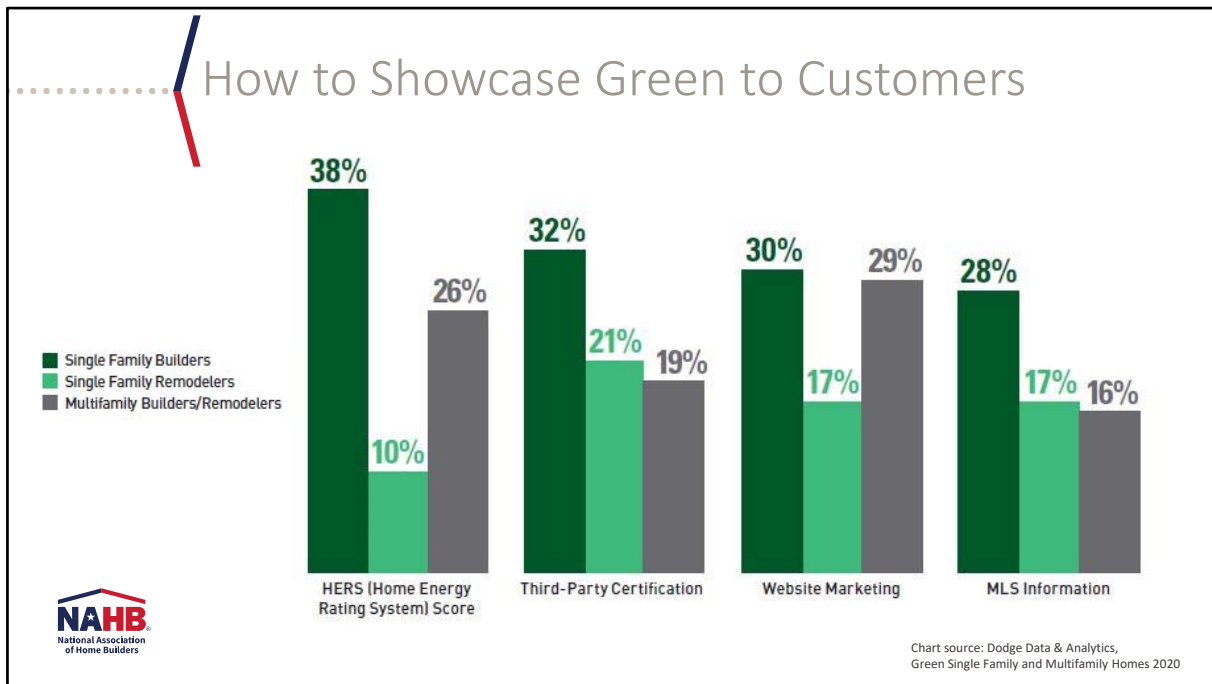


- Builders who responded that building green costs more were asked **what types of strategies provide value above the extra cost, driving customer willingness to pay that premium.**
- Those results are on the left: **Lower operating costs, comfort, and improved health and well-being topped the list.**
- This should carry well into the new market landscape, as these features are likely to be in the forefront of customers' thoughts when buying or remodeling.
- As seen in the chart on the right, **green builders also perceive these benefits as being one of the top two reasons different types of buyers are willing to pay a green premium.**
- **Green builders see lower operating costs as a top driver for many types of buyers –** marketing reduced utility bills resulting from efficient systems and packaging it as a reduced total cost of ownership may resonate with buyers hesitant to spend more at initial purchase.
- **Framing indoor air quality features as 'improved health and well-being' and as providing 'greater comfort' are also perceived as top drivers to entice some types of buyers to spend more upfront.**

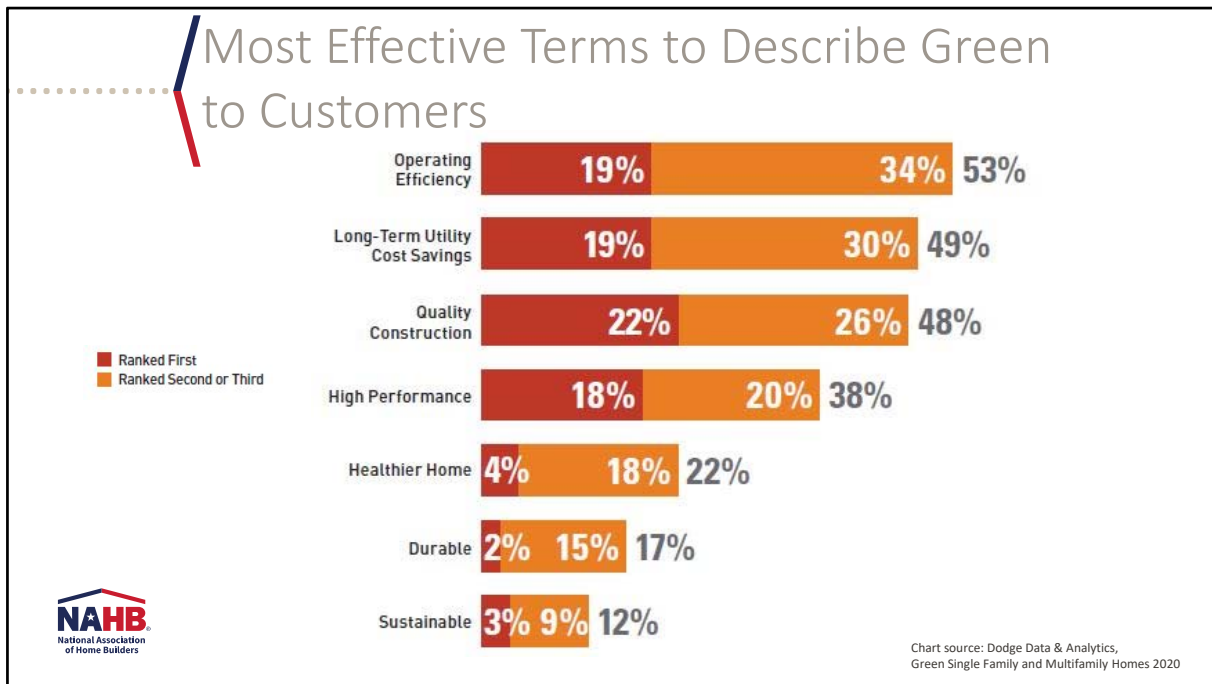
Selling Green



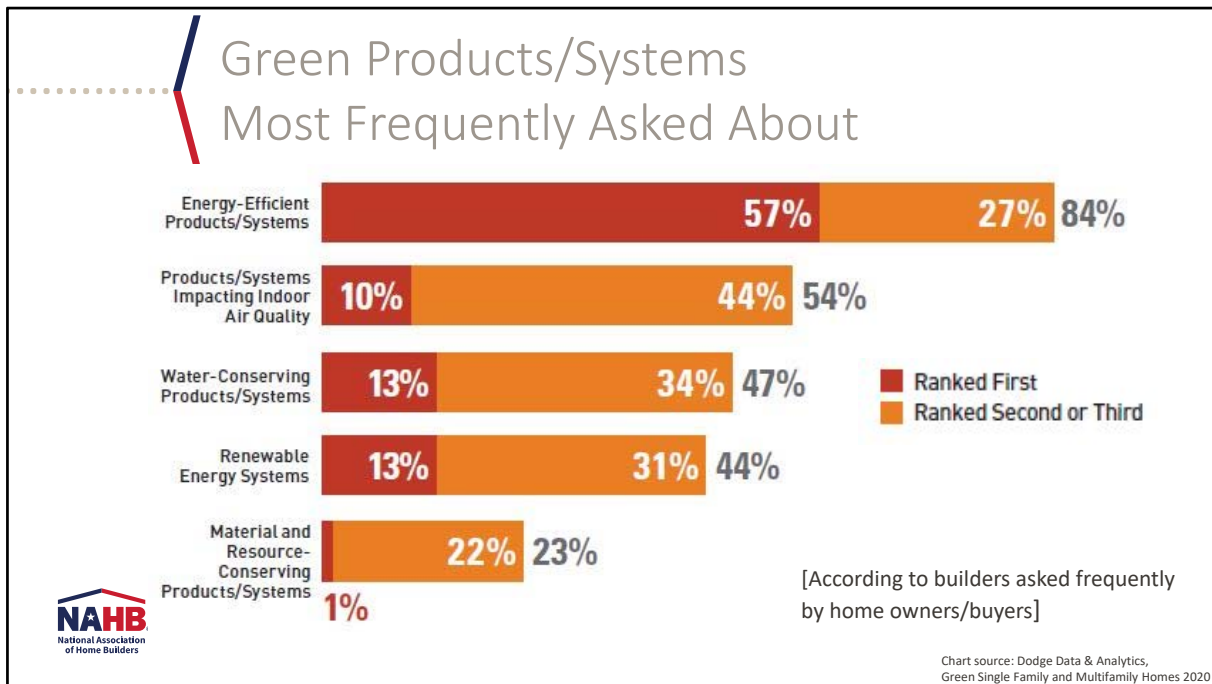
Which takes us into the last piece of the Brief we are going to cover today – selling green



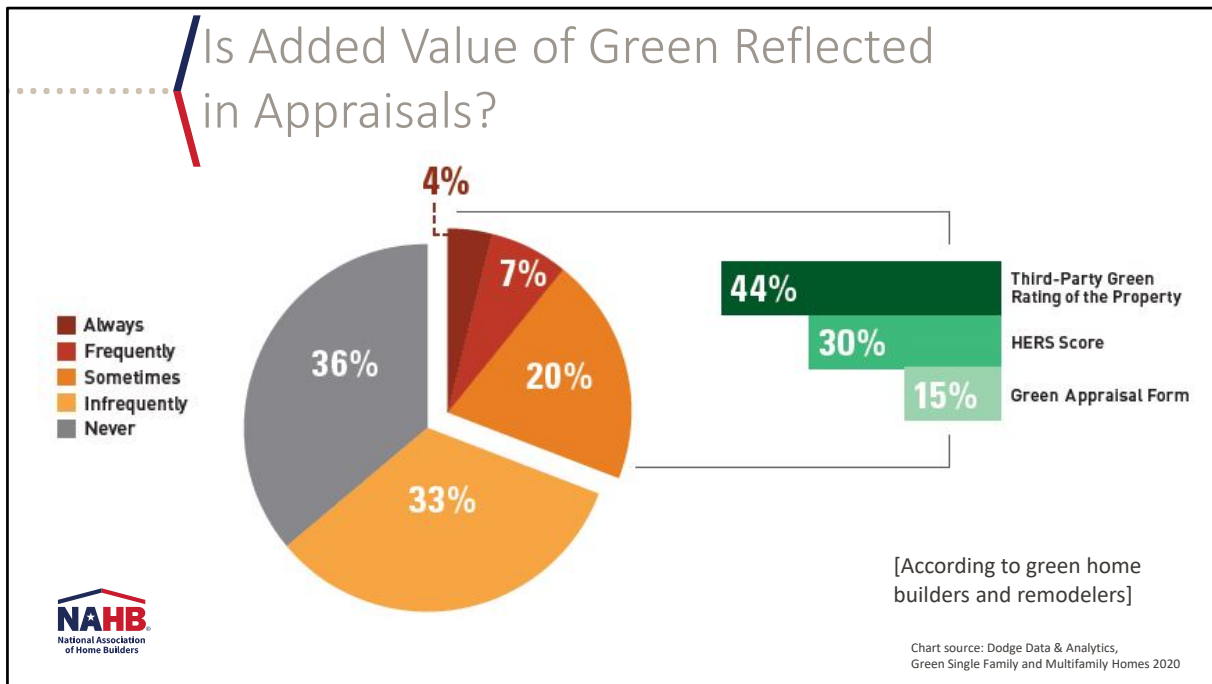
- Participants were asked to select the ways they demonstrate to customers that a home or apartment or condominium is green from a list of 6 options.
- The top four responses are shown here – the other two choices were ‘green appraisal form’ and ‘silent salesperson signage’.
- No one method is dominating in the market, but in general, a higher percentage of the single-family builders reported using these methods than the remodelers or the multifamily respondents.



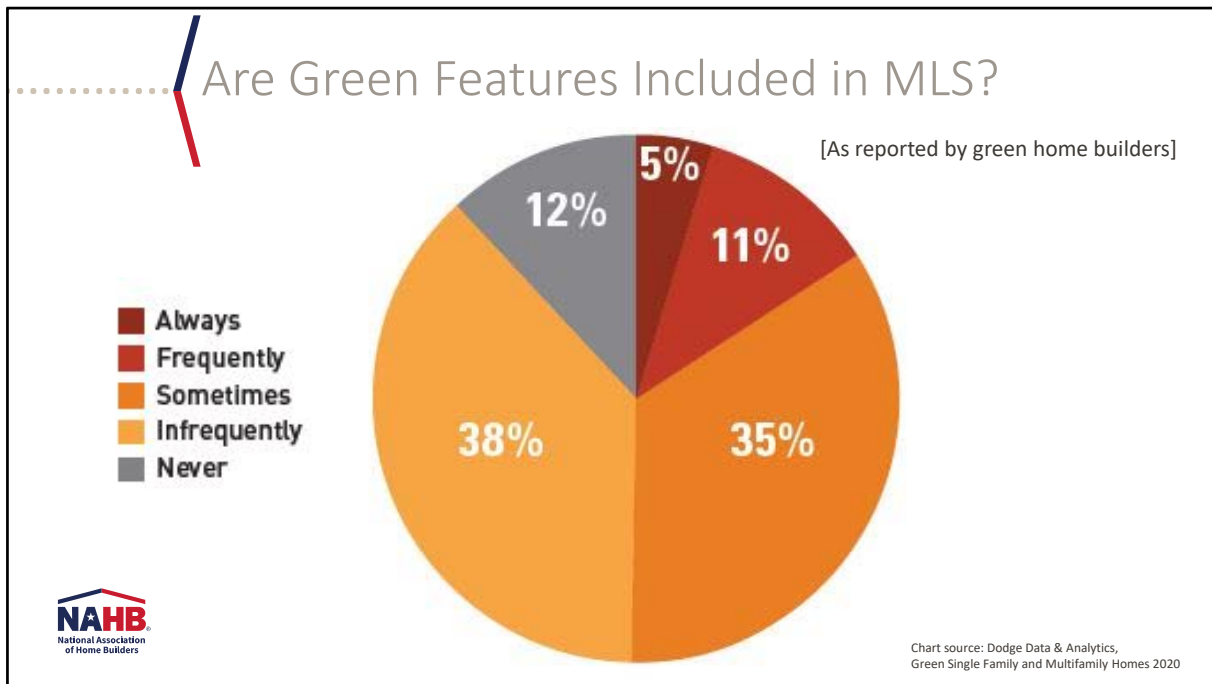
- Respondents were also asked which terms they perceive as being the most effective for describing green features to customers.
- **The top two terms—operating efficiency and long-term utility savings—both reflect the importance of having reduced operating costs—which was a top reason builders believe all types of homebuyers would pay more for green**
- The terms high-performance and sustainable ranked lower, and the term green did not even make the top results. These terms are used regularly by building science professionals but are not seen as highly influencing customers.
- Even though builders cite constructing healthier and durable homes as top reasons to build green as we saw earlier, those terms are not seen as being effective in influencing customers. This may be connected both to the challenge of defining these terms and proving the results to consumers.



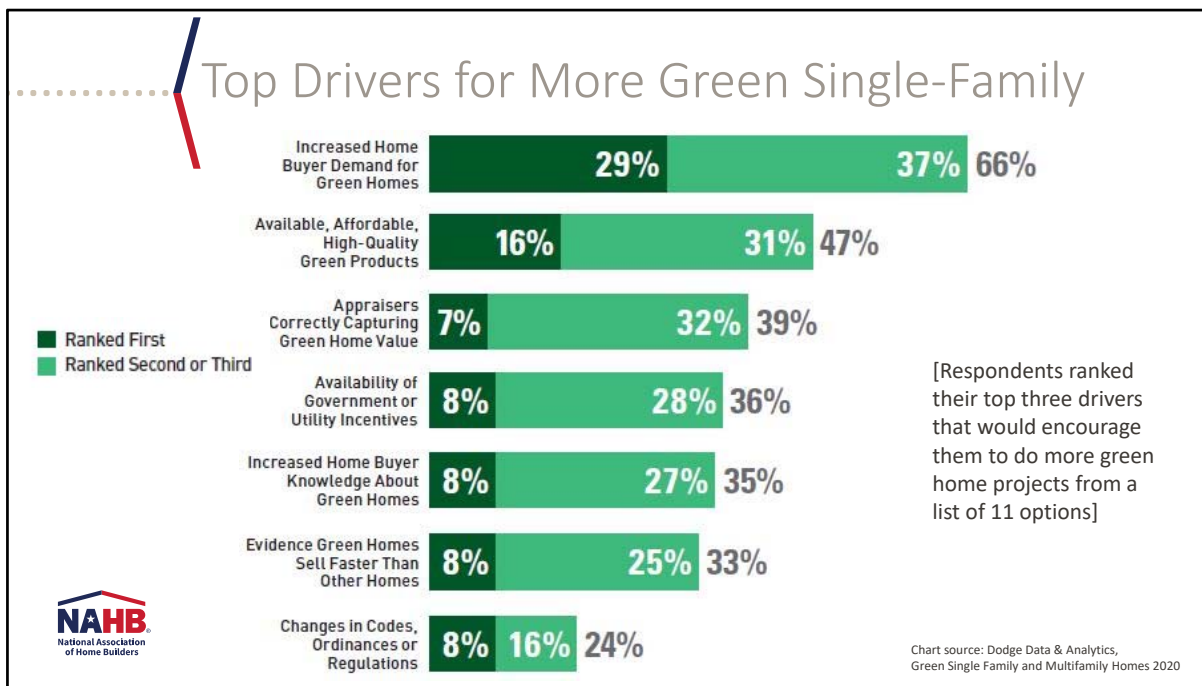
- Respondents were asked how often customers ask them about green products.
- For those who are asked frequently about them, we asked what types of products **consumers most often inquire about:**
  - **energy-efficient products and systems by far, with 84% ranking it in their top three**, followed by
  - those impacting indoor air quality,
  - water-conserving products and systems, and
  - renewable energy systems.



- The process of selling a home includes the builder and the buyer, but it also includes the appraiser and the real estate agent.
- Reflecting the added value of a green home in an appraisal is important to **help builders sell green at a price that reflects the difference between a green home and a home built to code.**
- However, **it is still relatively rare for builders and remodelers doing green projects to see the additional value of green reflected in the appraisal.**
- Only 11% report that this occurs frequently or always, and 69% say it is either infrequent or never happens.
- Of **those who are seeing the value reflected in appraisals**, which is pulled out in the bar graph on the right, **a third-party certification is seen as the most valuable piece of information.** The green appraisal form was only considered the most useful by 15% - education on how to complete the form and the benefits of doing so could increase its value to builders.

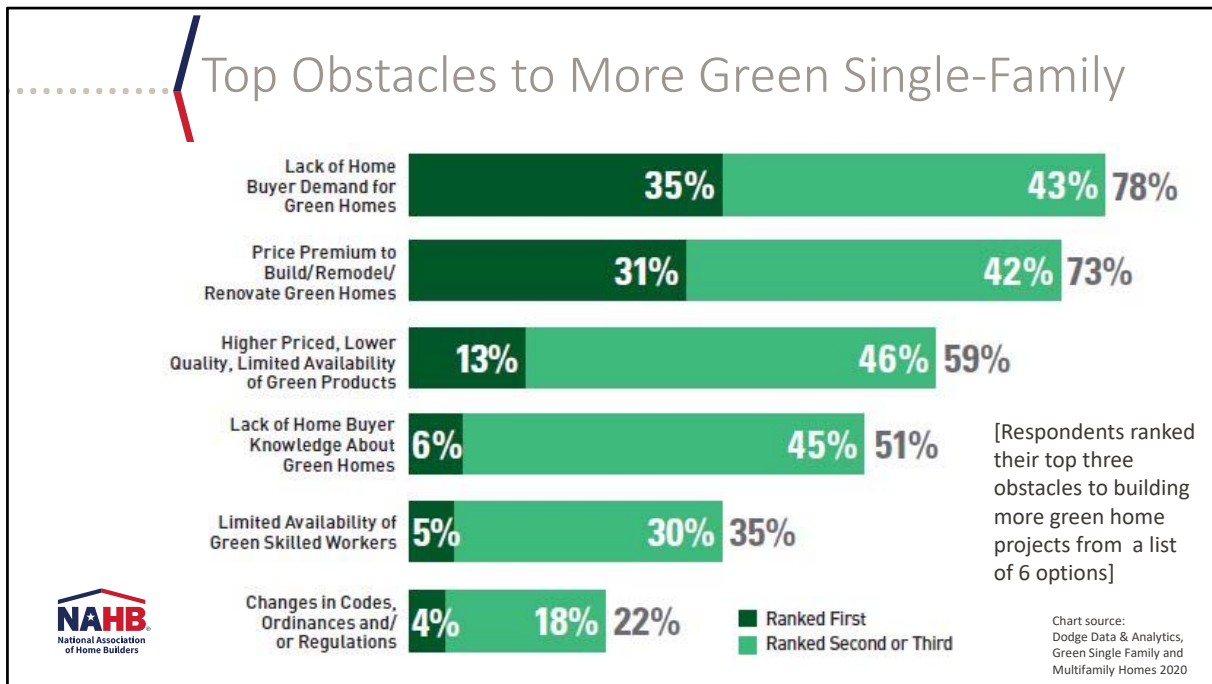


- **Most of the green home builders report that they see green features reflected in the MLS listings, but only 16% say it is a frequent occurrence while the majority say it happens only sometimes or infrequently.**
- **Greater use of these fields could help home buyers interested in green be more aware of available market options and help drive demand.**
- Use of these options can also showcase efficiency and comfort to all buyers, capitalizing on the anticipated awareness of home performance brought on by the shelter in place orders during the first half of 2020.

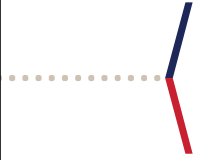


- Respondents were asked to **rank the top three drivers that would encourage them to do more green single-family home projects** from a list of 11 options.
- The top 7 responses for single-family builders and remodelers are shown in the chart.
- The results show what single-family builders and remodelers ranked first, and ranked #2 or #3, with the total of those shown as the gray percentage at the end of each bar,
- **Buyer demand for green homes is the top driver, with 66% of respondents ranking it in their top three, followed by the availability of affordable, high-quality green products.**
- **Almost 40% cite accurate appraisals as a top driver** – we saw earlier that only about 30% of green builders reported that appraisals are reflecting the added value of green. These results show a **significant opportunity to broaden the green building marketplace by being able to obtain accurate appraisals** – increasing the pool of green certified appraisers who understand high performance and reflect its value in their appraisals can help drive the market.







- Where we just saw buyer demand as a top driver to doing more green building in the single-family market, the **lack of buyer demand was reported as the biggest obstacle to doing more green projects by over three-quarters of these builders and remodelers.**
- **Food for thought:**
- **Most builders already are using several green practices and products in their homes.**
- **Increasing customer demand for green homes will drive the market forward.**
- **How? Shifting the conversation from cost to value, helping consumers realize that what they want in a home – efficiency, health and comfort – is provided in high-performance homes by communicating with them in terms that resonate, and showcasing those features to customers scrolling online through MLS listings are some of the possible ways to grow the high-performance landscape.**



## For More Information

NAHB Sustainability: [www.nahb.org/sustainability](http://www.nahb.org/sustainability)  
2020 SmartMarket Brief available for download: [www.nahb.org/smr](http://www.nahb.org/smr)  
Twitter: [@NAHB\\_Green](https://twitter.com/NAHB_Green)

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The 2020 SmartMarket brief is available for download at [nahb.org/smr](http://nahb.org/smr)

You can contact any of the NAHB Sustainability and Green Building staff listed here for additional information or assistance with all things green building.