

PureBlue

THE GREENEST GREEN IS BLUE

Brookfield Residential Goes High-Tech in Building an Ultra-Efficient Concept Home

FAIRFAX, Va. — At a glance, the new home on the corner doesn't look out of the ordinary.

It's stylish and contemporary, similar to the other model homes in Brookfield Residential's Avendale planned community in Northern Virginia. You wouldn't guess that within those walls an experiment is underway that could reshape the future of homebuilding.

Walk up the steps and through the front door of Brookfield Residential's PureBlue Home and you'll find yourself inside a cutting-edge concept home, a place where the latest energy-efficient technologies are tested and where a plan is being developed to pinpoint the most effective features and make them available to the everyday homebuyer.

The goal is to learn whether building sustainable homes can be a sustainable business model for a large-scale homebuilder like Brookfield Residential. So far, the company is encouraged by the results.

"The PureBlue Home is more than a model home. It's a test lab," said Mark Gregas, the project's director of information technology. "Having a real home where you can implement that technology is critical because then we can say as a homebuilder that we know this technology works. We know this technology adds value for our customer. That's something we want to provide."

A Closer Look

It won't hit you right away. You won't notice that the exterior walls are not stud-framed but rather ultra-efficient structural insulated panels. You may not guess that the fresh air isn't coming from an open window, but instead from the advanced HVAC system designed to constantly circulate clean, fresh air, while still using less energy.

You won't notice a dozen other things. What you'll see are beautifully designed spaces that immediately feel like home. But look closer and you'll see that Brookfield Residential has left markers along your path from room to room. Each calls out some new technology being tested in the home.

"All the data we collect, we can compare it side by side to other models right next door— in the same neighborhood, same size, same scale," said project manager Marc Dalessio. "We'll be able to do a comparison to see how efficient this home actually is compared to a typically built product."

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Brookfield Residential is not a small niche builder. The company builds homes and communities in 11 major North American markets, including more than a dozen communities in Virginia, Maryland and Delaware. It's no stranger to green building. It's already built and learned from two previous concept homes, but The PureBlue Home, which opened to the public in March, is its most expansive effort yet.

Sustainable, Inside and Out

Solar panels harness the sun's energy. The hybrid hot water heater and the advanced HVAC system conserve it. The structural insulated panel exterior walls—an insulating foam core sandwiched between two layers of structural board—are easy to install, airtight and should create 12 to 14 percent energy savings. It's all been carefully considered, and it all works together to maximize efficiency.

“We started from the very beginning,” said production manager Marc Dalessio. “We designed the pitch of the roof to be as efficient as possible for the solar panels to capture the sunlight. We then overhung the first- and second-floor windows so that in the summertime direct sunlight doesn't come in and it gives us enough shade to lower the solar heat gain in the house.”

The sustainable effort extends outside the home as well, where Brookfield Residential also focused on building a home with minimal impact on the land surrounding it.

A greywater system and a Rainwater HOG storage system recycle both rainwater and household water to help reduce flooding, erosion and runoff, while minimizing the home's reliance on public water. The landscaping uses native, low-water plants that are easily maintained with a drip irrigation system.

“What makes this project unique is that the house itself is not just a standalone building,” said Dustin Dorph, the land development coordinator. “It's actually an entire system that works with the climate, works with the interior of the building and all the different systems we have in place. It's all integrated, and the end result is a much better home.”

Best of Both Worlds

Energy-efficient living is not a revolutionary concept and new technology emerges every year to bring it closer to the mainstream. There are plenty of green homes out there, but truly sustainable energy efficiency has remained beyond the reach of homebuyers looking to raise their family in an affordable home in a traditional neighborhood.

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Though they want to be good to the environment and they want to save money on utility bills, most homebuyers balk at the upfront costs of building an energy-efficient home or the lifestyle sacrifices required to reduce their reliance on the energy grid.

Brookfield Residential is looking to give its homebuyers the best of both worlds.

The PureBlue Home received a score of minus-1 on the industry's standard Home Energy Rating System Index, meaning that the home is expected to generate more energy than it consumes. A new home built just five years ago averages a 103.

If even a fraction of these features can be integrated into a typical Brookfield Residential home, the project will be a success.

"We're trying to create the next generation of homes," said Robert Hubbell, president of the homebuilder's Washington, D.C., division. "The PureBlue Home is our chance to prove that we can create our own energy. If we continue along this path, we can save our homebuyers thousands of dollars a year, and we can do it without asking them to sacrifice. We'll actually make their lifestyle more comfortable and more enjoyable."