

Zero Energy Ready Homes are Affordable

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Thanks to the DOE Zero Energy Ready Home (ZERH) program, builders across the country are proving that the best-performing homes are not only available, but also affordable.

The DOE Building Technologies Office (BTO) “develops, demonstrates, and accelerates the adoption of cost-effective technologies, techniques, tools and services that enable high-performing, energy-efficient and demand-flexible residential and commercial buildings,” with the goal of providing Americans with better products, better homes, and better buildings to live, work, and play. The ZERH program is the federal government’s rigorous residential new home certification program. Through this program, BTO promotes the adoption of energy-efficient technologies and building methods, while providing a blueprint for delivering more efficient, healthier, and more durable homes to American homebuyers.



“These are probably the most durable, sustainable energy-efficient homes we've ever built. Most builders think it costs too much or it's too difficult. But if a builder like me who works in affordable housing with a very limited budget can do this than so can the guy whose building custom homes.”

**-Michael Sollitto, Director of Construction,
Habitat for Humanity South Sarasota,
6x Housing Innovation Award Winner**

While DOE focuses its efforts on making homes more efficient, at the heart of our mission is energy and environmental justice for all. Based on data from the DOE Low-Income Energy Affordability Data Tool (LEAD), the national average energy burden for low-income households is three times higher than for other households. One of the primary reasons is that low-income homes are frequently burdened with outdated equipment and other poor housing conditions that lead to higher-than-average energy use and costs. It’s not uncommon for low-income houses to have low insulation levels, old and inefficient appliances, drafty windows and doors, and poor indoor air quality. These factors not only result in high energy costs for occupants, but they can also result in inadequate living conditions that have negative health and societal effects.

DOE has several programs like the Weatherization Assistance Program and Home Performance with ENERGY STAR that have already helped upgrade the energy performance of 8 million homes across the country. DOE’s Zero Energy Ready Homes program works to ensure that new homes are affordable and accessible, too.

The Zero Energy Ready Home (ZERH) program is changing the narrative for what truly affordable housing should be. The combination of comfort, efficiency, durability, and health measures that lay the foundation for the program’s requirements ensure that these homes are not only possible to build at an affordable price point but are affordable to live in, as well. Advanced

technologies and efficiency measures help lower utility bills and keep more money in the pockets of the homeowners. Durability and risk mitigation strategies help reduce operations and maintenance costs, while added health measures can lead to improved health and reduced medical bills.

While these program requirements demand more from home builders, ZERH partners across the country are proving not only that building these homes is good for business and there is a growing market for them, but that they are also an ideal solution for providing affordable housing. The program has worked closely with 27 chapters of Habitat for Humanity that built over 130 Habitat homes that have earned ZERH certifications, and more are under construction now. Some chapters like Habitat for Humanity South Sarasota in Venice, FL and Habitat for Humanity Catawba Valley in Hickory, NC have committed to building and certifying all their homes to the ZERH standards. The [DOE Tour of Zero](#) includes over 40 examples of award-winning affordable housing projects across the country!

The United Way of Long Island is another affordable housing group who has leveraged the ZERH program to provide truly affordable housing to those in need. A seven-time [Housing Innovation Award Winner](#), including six Grand Awards, United Way has been making an impact for families in need of safe and affordable housing on Long Island for over 20 years. Their 2021 [grand award-winning home](#) was built to provide affordable housing to homeless veterans. Rick Wertheim, Senior Vice President of Housing and Green Initiatives at United Way of Long Island, says the ZERH program is exactly what affordable housing should be. "These homes provide aging-in-place features and a healthy environment so they contribute to occupant health ... Healthy affordable housing should be universally available and attainable for all Americans."

A Qualified Allocation Plan – or QAP -- is a tool within states' Low Income Housing Tax Credit (LIHTC) portfolios that sets out the state's eligibility priorities and criteria for awarding federal tax credits for affordable housing properties. Builders and developers can earn additional points under energy efficiency (one of the required items in QAP selection criteria) by certifying their designated affordable housing properties to ZERH specifications, a big incentive in these highly competitive tax credit programs.

While our current partners are leading the charge, the ZERH program continues to work on ways to reach more of the affordable housing market and increase the number of Americans living in newly-constructed high-performance homes. The ZERH program has continued to work closely with states and local governments to help support their low-income housing programs. Over 10 states now include [direct references](#) to the program within their Qualified Allocation Plans (see sidebar) with more being added each year. Further, the ZERH program hopes to broaden its efforts in the affordable housing space by working with groups such as HUD, Fannie Mae, Enterprise Community Partners, and the Federal Home Loan Bank system to provide more green financing products. These efforts will help to finance more affordable single family and multi-family Zero Energy Ready Home projects to be built over the next few decades.

These examples illustrate that you can combine the comfort and air quality of high-performance homes with the energy savings and reduced maintenance that allow low-income tenants and homeowners to save money and live well. As we move towards a future with our eyes on

reducing energy costs and carbon emissions to help combat climate change, it's important for all of us to remember the need for keeping equity in mind. All Americans deserve a home that is healthy, safe, resource efficient and affordable.

Are you working on a project that might benefit from the Zero Energy Ready Home program? Contact us at zerh@doe.gov to learn how we can help!