



# U.S. DOE Zero Energy Ready Home: Why, What and How

## Why

Zero Energy Ready Home leverages proven innovations from U.S. Department of Energy research that can significantly benefit all housing stakeholders:

- **Homeowners**
  - better home experience (health, comfort, protection, and future value)
  - lower ownership cost
- **Builders**
  - superior customer satisfaction
  - less liability
  - market differentiation
- **Our Nation**
  - ~\$150 billion of utility savings added to economy
  - ~1 million job-years of additional work
  - 1+ million metric tons of carbon emissions avoided
  - more resilient electric grid with significantly lower peak demand

Zero Energy Ready Home is a certification program for new homes that optimize efficiency, manage related risks, and help ensure future readiness.

## What

Step One: Optimize Efficiency	Step Two: Do No Harm	Step Three: Ensure Future Ready
Enclosure	Water Protection	Solar Ready
Equipment	Ensured Comfort	Forthcoming Codes
Appliances/Lighting	Indoor Air Quality	Resilience [Future]

Zero Energy Ready Home builds upon existing requirements and verification infrastructure from less rigorous but complementary federal government new home labeling programs.

## How

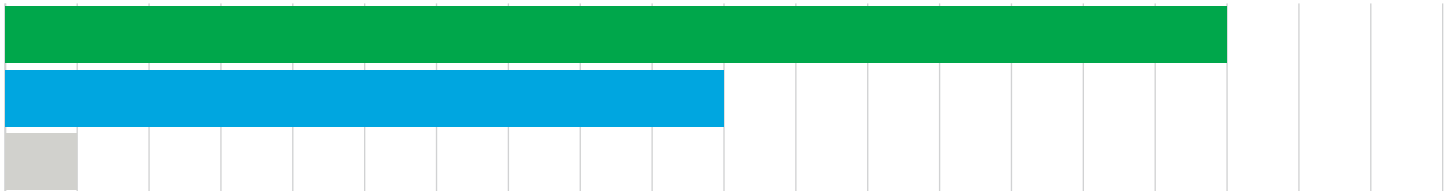




## Take Advantage of Innovative Technology

The largest investment of a lifetime should stand the test of time. Put aside fears of obsolescence with Zero Energy Ready Home. That's because advanced technology innovations and building systems meet and exceed forthcoming energy codes. As a result, you're investing in a home of the future and not the past.

### Compare the Difference



KEY ■ DOE Zero Energy Ready Home ■ ENERGY STAR® Certified Home ■ Existing Home

"We were attracted to...a complete high-performance package, high energy efficiency, high water efficiency, and air filtration for indoor air quality."

— Homeowner



"We didn't want to think back in 10, 20, or 30 years and be kicking ourselves for not taking advantage of the technological advances in home building."

— Homeowner

"The Zero Energy Ready Home takes advantage of new technologies and materials...to have a more efficiently operating home with less maintenance."

— Homeowner

### Zero Energy Ready Home Technology Package

#### Advanced Enclosure

Extra insulation expertly installed ensures an effective thermal blanket around your home. High-performance windows with advanced technology coatings block out unwanted summer heat gain and minimize winter heat loss. Lastly, comprehensive air sealing technology helps eliminate drafts that can compromise comfort and durability

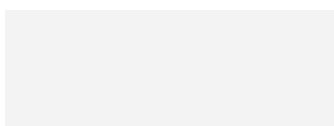
#### Advanced Equipment

High-efficiency heating and cooling equipment are commonly used that feature the latest technology for performance and efficiency. In addition, the full comfort system is installed to industry best practices including ducts located for optimized performance. Latest technology high-efficiency water heaters are also included in many homes.

#### Advanced Components

Key components are ENERGY STAR® certified including appliances (e.g., refrigerators, dishwashers), fans (e.g., bath exhaust and ceiling fans), and LED Lighting. In addition, efficient plumbing solutions help save thousands of gallons of water going down the drain. Where a solar system is not included and significant annual sunlight is accessible, critical details ensure one can be added in the future with no disruption or cost penalty.

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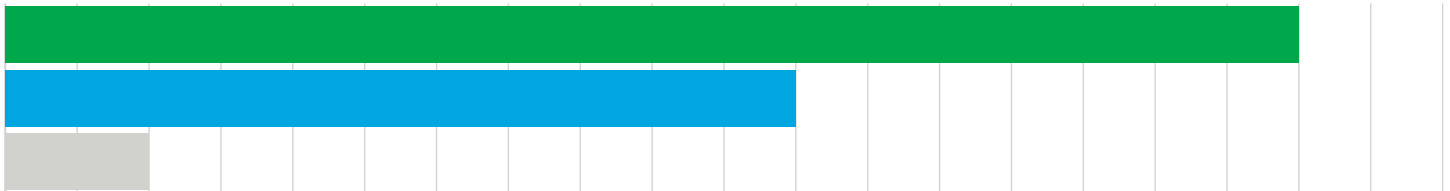
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## Live More, Worry Less

Homebuyers are typically untrained to discern complex details, technologies, and practices not visible in a finished home. With a Zero Energy Ready Home, you can enjoy peace-of-mind knowing your home is held to a higher standard beyond minimum code. This means you can look forward to living with ease of maintenance, minimal heating and cooling bills, enhanced comfort, and the great feeling waking up each day in a quality built home.

### Compare the Difference



KEY ■ DOE Zero Energy Ready Home ■ ENERGY STAR® Certified Home ■ Existing Home

“We have lived in the home for two years now and couldn’t be happier with the quality of construction, and the ease of living in, cleaning and maintaining the home.”

— Homeowner



“We looked for a long time and were finding the choice between bad and worse. This house is so preferable, to be in a home that is so well built. It’s double checked. We like the fact that standards are in place.”

— Homeowner

### Zero Energy Ready Home Quality Built Package

#### Quality Construction

All Zero Energy Ready Homes are constructed to meet the federal government’s most rigorous guidelines for high-performance homes. This includes industry leading best practices for wall, roof, and foundation assemblies along with windows that meet or exceed ENERGY STAR® certification.

#### Quality Components

All lighting, appliances, and fans provided are ENERGY STAR® certified for both high-efficiency and performance that meets or exceeds consumer quality expectations. In addition, high-efficient heating, cooling, and hot water equipment commonly provided include higher grade components and are quality installed to industry best practices.

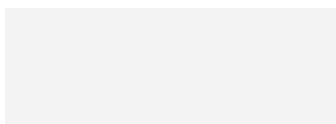
#### Certified Performance

Each home includes three certifications: ENERGY STAR® for above code energy efficiency; EPA Indoor airPLUS for comprehensive indoor air quality measures; and Zero Energy Ready Home for optimized efficiency plus performance. This independent verification requires performance simulations, field inspections, diagnostic testing, and detailed checklists. As a result, each home is held to a substantially higher standard than a typical new home.

“There is not a single thing we dislike about this home and we love the quality of construction.”

— Homeowner

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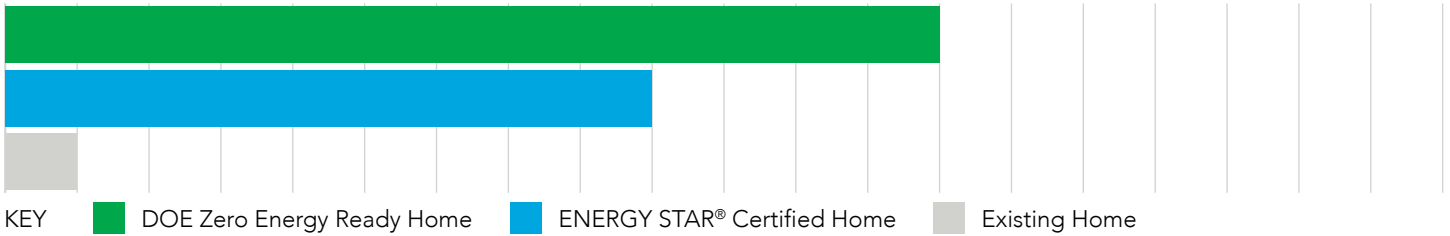
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## Take Control of Your Utility Bills

Each Zero Energy Ready Home optimizes energy efficiency. As a result, monthly utility bill savings can easily exceed the incremental increase in the monthly mortgage. As a result, you can look forward to lower ownership cost the day you move in with utility savings adding up to \$10,000s and often over \$100,000 over a 30-year mortgage. What a great investment!

### Compare the Difference



“Our energy bills are less than half of our previous home with 20% more square footage.”

— Homeowner

“We love our electric bill, or maybe we should say lack of bill. We have a home that not many people get to have. Most people don’t understand how much this home helps our family save money, live healthier, and be protected.”

— Homeowner

“Our energy bills are lower than ever but our quality of life is higher.”

— Homeowner



### Zero Energy Ready Home Energy Efficiency Package

#### Efficient Enclosure

Extra insulation meets or exceeds forthcoming energy codes and is quality-installed to ensure an effective thermal blanket around each home. High-performance windows use advanced coatings to block unwanted summer heat gain and minimize winter heat loss. Comprehensive air sealing is applied to over a half-mile of cracks and seams in a typical home along with holes and penetrations to help eliminate drafts.

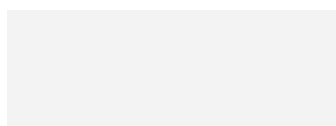
#### Efficient Comfort System

Heating and cooling systems commonly utilize the latest high-efficiency equipment and are quality installed to industry best practices including duct locations optimized for performance. This will ensure energy efficient operation along with even distribution of comfort and humidity control throughout the home.

#### Efficient Components

Key components are ENERGY STAR® certified including appliances (e.g., refrigerators, dishwashers), fans (e.g., bath exhaust and ceiling fans), and LED Lighting. In addition, efficient plumbing solutions help save thousands of gallons of water going down the drain. Many Zero Energy Ready Homes also feature the latest high-efficiency water heaters.

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