Zero energy homes are just like any home—except better. They are regular grid-tied homes that produce as much renewable energy as they consume over the course of a year, leaving the occupants with a net zero energy bill, and a carbon-free home.

A zero energy home combines advanced design and superior building systems with energy efficiency and on-site solar panels to produce a better home. Zero energy homes are ultra-comfortable, healthy, quiet, sustainable homes that are affordable to live in.

Available Everywhere in Every Size and Style
from colonial, to modern, to craftsman, or ranch and everything in between.

Every Day Comfort
A place of comfort and security, a gathering place for friends, and a sanctuary for your family.

Every Day Health
Built to a higher standard, you'll breathe the cleanest air, feel the most comfortable temperatures, and enjoy the quietest indoor environment in a zero energy home.

Affordable
From move-in day and for as long as you own the home, the total cost of living in a zero energy home is zero or next to zero. Be sheltered from the rapid rise in energy prices. Pay the same price in ten years that you pay today to keep your lights on and your family warm.

Better and More Durable
Thicker more air-tight walls, fresh, filtered air, and advanced window technologies, among many other features, ensure that zero energy homes are better protected and more durable than average homes.

Carbon Free and Climate Friendly
Zero energy homes are a cornerstone of a reduced carbon future. With a zero energy home, you control where your home's energy comes from with every flip of the light switch, every day.

Zero Energy Homes are the Future Trend of Real Estate

The most powerful trend in real estate today is the movement toward zero energy and zero energy ready homes. These highly sustainable homes are a smart investment. Zero homes have no energy bills and net zero carbon emissions. They use more advanced technology, are more durable, more quiet, more comfortable, and healthier to live in than standard homes.

Zero Energy Homes Are Readily Available Throughout the U.S., Canada, and Europe

There are currently over 6,000 zero energy and zero energy ready homes and apartments in North America, and the trend is growing fast. Navigant Research estimates that by 2035, $1.4 trillion will be spent on zero energy homes and buildings worldwide. Between now and 2035, a total of $4.6 trillion will be spent on zero energy homes, mostly in the U.S. and Europe. ZE houses come in all architectural styles: colonial, craftsman, modern, contemporary, ranch..

The Zero Energy Trend is Irreversible

There are several factors that will ensure that the popularity and availability of zero energy homes and buildings will continue:

Zero Energy Building Codes: The state of California is mandating that all new home construction meet a "zero energy ready" code by 2020. Washington State has also passed a zero energy building code, and other states are showing signs of following. The United States has mandated that all new federal buildings built after 2030 should be zero energy buildings.

The Construction Industry is Preparing for Zero Energy: California and Washington combined have the 6th largest economy in the world. builders are leading in the construction of zero energy homes. As the rest of the country follows California's example the impact on zero energy home sales will be tremendous.

Prices of Zero Energy Home Components are Declining: Many of the most important components of a zero energy home are declining in price. For example, the cost of LED lights has declined dramatically and is still going down. Similarly the cost of rooftop solar collectors has come down significantly and is projected to fall by at least another 16% to 33% by 2020. California and Washington will provide a large, predictable, and dependable market for high performance building technologies, resulting in increased investments in these technologies and even lower future costs.

Be part of the zero energy trend.

Americans Want to Take Action to Prevent Global Warming: According to a November 2015 Yale/Gallup/ClearVision poll, 62% of Americans now believe that "global warming is an urgent threat requiring immediate and drastic action." These potential homebuyers will increasingly be drawn to energy-efficient, zero energy homes not only because of their low carbon footprint, but because of the health and well-being benefits for their families.

The Paris Accords will Spur the Spread of Zero Energy Homes: The Paris Accords commit the U.S. and other countries to limiting global temperature increase to 2˚C and acknowledge that limiting temperature increase to 1.5˚C may well be needed to avoid major climate disruptions. To meet these targets, local, state, and federal governments will be incentivizing and in some cases mandating steps that will lead to the widespread adoption of zero energy homes and buildings.

Cities Across America are Requiring Energy Efficiency Disclosures: Thirty large- and medium-sized cities including Boston, New York, Philadelphia, Seattle, San Francisco, and Washington D.C. are already requiring commercial building owners to disclose the actual energy performance of their buildings. Because it is one of the easiest ways to monitor reductions in carbon emissions, this trend is likely to spread rapidly and will incentivize builders to invest in highly energy efficient buildings and owners to invest in in energy efficient retrofits.

1. Enjoy zero energy bills
Pay no energy bills, including heating, cooling, lighting and appliances. This translates into a huge monthly savings for homeowners.

2. Zero energy means zero carbon emissions
Over the course of a year, a zero energy home will generate as much energy as it uses, so the home's net carbon emissions are also zero.

3. Zero energy homes are affordable to buy and cost less to own
A zero energy home will cost less to own than a conventional home because the up-front investment, included in the monthly mortgage payment, will be lower than the monthly energy savings, resulting in positive cash flow to the owner the very first month.

For example, if the higher cost of building a zero energy home adds $100 per month onto the mortgage, but your energy savings are $200 a month, then you are actually SAVING $100 a month by living in a zero energy home.

4. Zero energy homes are healthier homes
These high-performance homes are very air-tight, resulting in fewer outdoor pollutants and allergens entering the home. Superior indoor air quality is achieved through a fresh air system that filters and cleans the air while retaining heat in the home. Moisture is controlled, reducing dangerous mold problems, and keeping families healthier.

The appliances installed in zero energy homes do not emit unhealthy fumes from natural gas or propane. The materials and finishes in the home contain low or no volatile organic compounds (VOCs) like formaldehyde, providing a healthy, clean, non-toxic environment.

All of this results in significant statistical improvements in the general health of individuals living in these well-ventilated, air-tight homes.

The bottom line is zero energy homes are just plain better homes.

"Air quality was immediately apparent in the dramatic reduction in my son's asthma symptoms. He went from daily inhaler use and frequent upper respiratory infections to only occasional/seasonal inhaler use, and the use of antibiotics in our house fell by 80%. And this in a house that still has three cats and two dogs!" – Homeowner and builder Ker Thomson

5. Zero energy homes are more comfortable homes
The well insulated, air-tight environment achieved in zero homes results in a very comfortable home free of drafts. And the heating systems used to heat them keep the temperature very even and steady.

6. Zero energy homes are quieter homes

Thanks to thick walls, triple-pane windows, and a tight building envelope, outside sounds stay out and inside sounds stay in keeping the whole neighborhood happy. Mini-split heat pump systems used in zero energy homes are practically noiseless.

7. Keeping zero energy homes clean is a cinch

An airtight home means dust and dirt stays out! What little dust does make it inside is filtered out by the fresh air system. And the heating and cooling system has no ducts for accumulating and dispersing dust. That means less time spent on cleaning and more free time free for everything else.

8. Zero energy homes are higher quality homes, built to last

Certified zero energy homes have fewer moisture problems because they are extremely airtight and actively ventilated. Double wall construction or added rigid insulation, makes the home more durable. Advanced construction practices and technologies are specified for every certified zero energy home and are verified by independent contractors, so homebuyers can can be confident about their investment. Zero homes provide value that will stand the test of time. These homes will meet, and often exceed, future building code requirements.

9. Zero energy homes will enhance your energy independence

Although they are tied to the grid, zero energy homes produce their own energy so owners are free from volatile price changes in the local and global energy markets. And, as an option, a battery back-up system can easily be integrated into a zero energy home's solar system to store energy for power outages or for off-grid use.

10. Zero energy homes utilize proven advanced technologies

Certified zero energy homes use advanced products, materials and construction methods that are based on state-of-the-art building science. These high performance homes use the same advanced window, insulation, air sealing, ventilation and heating and cooling technologies today that will become standard in homes in the future.

11. Zero energy homes are a smart investment

As energy costs increase globally, the energy expenses associated with zero energy homes will remain at zero, increasing the value of the home and providing a hedge against inflation. Recent studies show that the more energy efficient a home is, the lower the foreclosure rate, so lenders can be confident about extending loans on zero homes. And homebuyers are often willing to pay more for energy efficient homes. A study conducted by Vanderbilt University Law School found that on average buyers were willing to pay 5% more for a green labeled home, provided the green label indicated actual energy savings. More highly rated houses in the study commanded an even higher premium.

12. Zero energy homes set a measurable standard for green homes

There's just no way to "green wash" a certified, energy modeled, zero energy home. Zero homes set an objective, measurable, and verifiable standard for energy efficient homes, so homebuyers can be confident about their purchase and secure in their investment.

Zero Energy Homes Cost Less To Own

With cost-effective design and construction, the energy saving features and solar collectors for a zero energy home may add 5 to 10% over the cost of a similar-sized home built to code after incentives. However, the average monthly energy savings on the zero home will be significantly greater than the added monthly mortgage payment. As a result, the total cost of ownership of a cost effective zero energy home will be less than that of a comparable home built to code, creating positive cash flow the very first month of ownership.

A comparative study of the cost of ownership of zero energy residences by Efficiency Vermont confirms that net zero is a better investment than a similar code-built home, even before rebates or incentives – both in the first year and over the 30-year loan period. When additional capital costs for energy efficiency and photovoltaics are financed net zero ready and net zero residential buildings cost less to own and operate than code buildings for single-family and multifamily residents. The positive cash flow benefits are clear. Building to net zero energy standards saves money beginning from day one and well into the future.

Cost of Ownership Versus Cost per Square Foot or Pay Back

When valuing homes, designers, builders, lenders, realtors and homebuyers usually speak in terms of "dollars per square foot." Yet dollars per square foot does not take into account the significant monthly cost savings with a zero energy home. Another misleading measure often cited when valuing the benefits of energy efficiency in a home is "pay back in years" on the added costs of energy saving features. But few people stay in a home long enough to complete the "payback" and payback does not take into account the fact that the positive cash flow on a zero energy home starts the very first year. The total cost of ownership, not "dollars per square foot", or "payback in years" provides a clearer accounting of the financial benefits of a zero energy home and should be the primary financial yardstick used by everyone when valuing energy efficient homes and comparing them to similar standard homes.

PITI Versus PITIE

The old way of calculating the cost of ownership of homes includes monthly mortgage Principal and Interest, Taxes, and Insurance (PITI). The new, more accurate, way is to calculate the total cost of ownership, which includes the energy expenses for maintaining and operating a home, such as space heating, cooling, water heating, lighting, appliances, as well as the cost to run all those appliances and electronics. Referred to as PITIE – Principal, Interest, Taxes, Insurance and Energy – this acronym better reflects the total cost of ownership. In the future, as water prices rise, we will see stakeholders talking about PITIEW – Principal, Interest, Taxes, Insurance, Energy and Water. Most certified zero energy homes already reduce overall water use by including water saving faucets, toilets and appliances, further reducing the cost of ownership of a zero home.

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PITI Versus PITIE (continued)

A Texas Builder Explains Total Cost of Ownership

"The old school of return on investment says you typically need to pay it back in about 6 years or so. With green building it's a whole different story, and when I explain this to prospective clients they get it, whether they're a wage earner buying an entry level home or an upper income person buying their second or third luxury move-up product. The return on investment on what you spend for green building is typically realized the first month you're in the home.

Here's a real example of a 3,000 square-foot home with a $300 month average utility bill. If you spend $10,000 additional on the green aspects of the home, you can reduce that energy cost to $150 per month. At today's mortgage rates, the $10,000 you spend costs you about $30 per month. You've saved $150 in utility costs and you've spent $30 to do it. Your positive cash flow that first month is $120, and it will be at least $120 a month after that. Whenever I've explained that to a customer, whether they're buying a $100,000 home or $3 million home, they've never failed to embrace it and find great value in it."

T.W. Bailey Sr., president of Bailey Family Builders, Frisco, Texas

Based on the total cost of ownership, even though the initial square foot costs are somewhat higher, zero energy homes cost less for the homeowner than a comparable standard home, starting at year one, which means anyone who can afford a home can afford a zero net energy home.