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# Approach to Sustainability

## Environmental Responsibility

- Building environmentally sensible, affordable homes
- Minimizing our operations' impact on the environment
- Leveraging sustainability across every aspect of our business

## Economic Responsibility

- Offering products that appeal to today's consumer
- Keeping homeownership affordable

## Social Responsibility

- Creating vibrant neighborhoods
- Giving back to the communities in which we live & work

## Stockholder Responsibility

- Improving quality of the Brand
- Creating long-term growth and value
- Reporting progress on sustainability initiatives



Reports from 2007 through 2013 are available at [kbhome.com/sustainability](http://kbhome.com/sustainability)

***Sustainability is valued by consumers, appeals to employees and stockholders, and is the right thing to do for the environment***



# Energy Efficiency's Multiple Benefits

## Background

- US households spend around \$230B annually on energy (not including transportation)
- Energy is a significant and growing cost of homeownership (~15%)

## Research Question

- **Is residential energy efficiency associated with lower mortgage default and prepayment risk?**
- Study conducted by University of North Carolina Center for Community Capital
- Institute for Market Transformation provided financial support
- Loan data from CoreLogic
- Data on rated homes from RESNET



RESEARCH REPORT

March 2013

## Home Energy Efficiency and Mortgage Risks

Research funded by the Institute for Market Transformation

UNC CENTER for COMMUNITY CAPITAL • INSTITUTE for MARKET TRANSFORMATION



# Findings

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- Default risks are on average **32% lower** on ENERGY STAR homes, controlling for other loan determinants – the more efficient the house, the lower the default risk
- A mortgage on an ENERGY STAR residence is **27% less** likely to be prepaid
- The lower the HERS Score – the lower the mortgage risk
- Results are statistically significant at a 99.9% confidence level



# What Does This Mean?

- Energy efficient communities have a stronger fabric
  - How valuable is that to Cities?
  - How to encourage more Energy efficient homes?
  
- Given the superior loan performance of such borrowers, lenders can feel confident that they can reflect this in their mortgage offerings
  - Lenders could include the slightly higher upfront costs into the mortgage, providing the monthly savings more than offset their cost.
  - Debt-to-Income ratios could be adjusted to reflect the lower than average monthly operating costs.
  
- Energy efficiency renovation options could be included in mortgages for existing homes and refinances



# Building Better Performing Homes



## DIFFERENCE™



HOMES BUILT FOR SAVING  
**MONEY & ENERGY**



HEALTHIER HOMES  
**CLEANER INDOOR AIR**



WATER CONSERVING HOMES  
**SAVINGS IN EVERY DROP**



HOMES BUILT WITH THE  
**FUTURE IN MIND**





# Energy Efficiency



## HOMES BUILT FOR SAVING **MONEY & ENERGY**

- EPG – quantifies estimated cost savings
- Every home is ENERGY STAR® certified
- KB Homes built in CA average 24% > T-24
- Over 2,500 homes with solar PV systems
- Energy Management System & USB outlet in every home
- ZeroHouse 2.0 – next generation homes



## THE POWER OF 10 Edgewood at the Cove San Jacinto, CA

- 2,233 sq. ft. ENERGY STAR certified home
- 2.3 kW solar power system

**Savings in 10 Years:**  
 \$24,000 energy bills savings  
 + \$3,000 water bills savings  


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**\$27,000 total**  
 est. utility bills savings



BUILT TO ORDER

# zeroHOUSE 2.0

## Catalyst for Innovation

- Explore cost-effective materials & construction techniques for next generation of KB homes
- Showcase emerging smart home technologies
- Identify features / technologies that are attractive to consumers
- Help with market transformation

## Marketing Tool

- Generate brand recognition & positioning
- Drive traffic to the community that is hosting the home
  - Consumers & brokers
  - Local governments
  - Media



KB's 1<sup>st</sup> Net-Zero Energy Home  
Built in 2010



*“Reduce before you produce”*

Los Angeles Times

# BUSINESS

SUNDAY, SEPTEMBER 23, 2012 • LATIMES.COM/BUSINESS

## AIMING FOR ZERO

**Green living**  
KB Home's ZeroHouse looks like any of its other built-to-order homes, but incorporates many energy-efficient features that help meet the goal of using less energy than the house produces.

By ALEJANDRO LAZO

Crowned with three gables and painted in hues of gray and white, the suburban home in Lake Forest doesn't look much like the domicile of the future.

But as summer heat radiates off the fresh asphalt outside, the home runs comfortably at full tilt indoors. Recessed lights shine, radios blare and air-conditioned splendor greets hot skin. Despite all systems going, the property is producing more electricity than it can consume on a warm summer day—and that's the goal.

Unveiled late last year, the ZeroHouse model by Los Angeles builder KB Home embodies the industry's bid to move beyond the one-of-a-kind vanity project and make subdivision building a green practice. Net-zero homes such as the one KB Home has built are highly efficient properties paired with renewable energy technology such as solar panel systems, resulting in homes as green they produce at least as much juice as they consume.

California has had expansive policies mandating and incentivizing the development of greener new homes for years, but the implementation of those goals has been slowed by the weak housing market and the dearth of new construction.

With the market. [See Green, 18A]

ZeroHouse, a KB Home model of efficiency in Lake Forest, showcases efforts to offer buyers homes that produce as much energy as they use.

Source: KB Home

ILLUSTRATION: DAVID ROYER FOR THE TIMES

*“Generate as much energy as expected to use”*



# BUILT TO ORDER zeroHOUSE 2.0

1

## WALL ASSEMBLY

High-performance wall systems help create optimal indoor energy efficiency. Additional insulation reduces outdoor heat transfer.

2

## ROOF ASSEMBLY

An integrated Owens Corning™ EnergyComplete® home insulation system seals the attic and achieves more climate comfort and energy savings than traditional attic construction.

3

## ENERGY STAR SMART APPLIANCES

Whirlpool® ENERGY STAR certified appliances use up to 30% less energy than standard appliances. This is the first new home to showcase smart appliances that can easily shift energy consumption to off-peak times and can be controlled while away from home.

4

## LIGHTING

LED recessed lights save energy and are designed to last much longer than conventional incandescent or fluorescent light bulbs.

5

## HEATING & COOLING

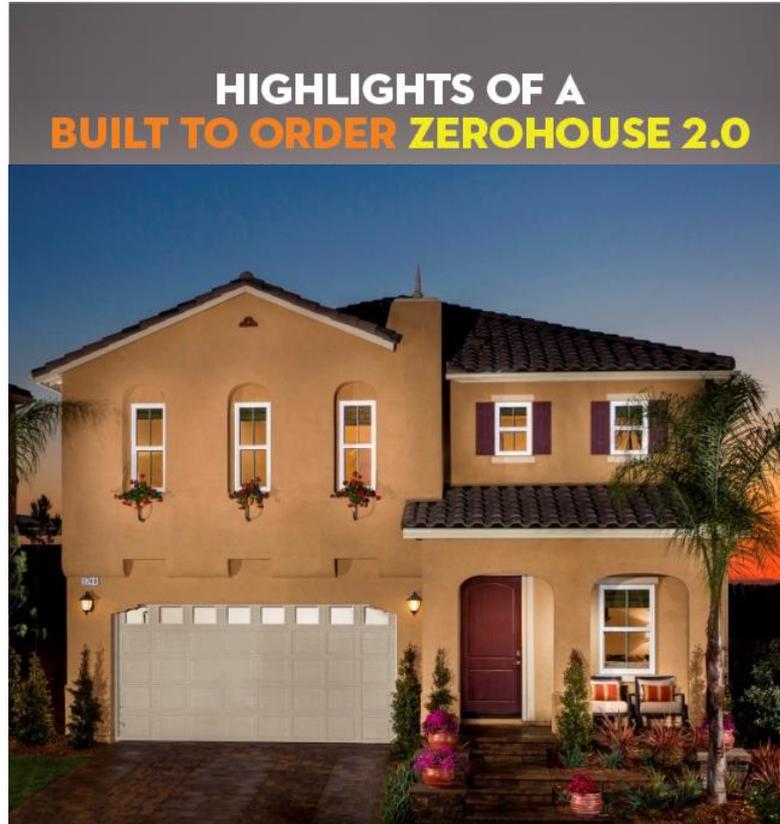
The Carrier® 16 SEER heat pump can operate in low-energy use mode most of the time.

The programmable thermostat can help reduce heating and cooling costs by up to \$180 per year. And you can adjust it while away from home.

6

## LOW-E WINDOWS

Low-E, dual-pane, argon gas-filled windows help regulate indoor air temperature, reduce radiant energy loss by up to 15% and protect furnishings from UV glare.



## HIGHLIGHTS OF A BUILT TO ORDER ZEROHOUSE 2.0



Solar gives you the new-home high-tech advantage.



Programmable thermostats improve energy efficiency.



Charging stations allow you to recharge electric vehicles.

7

## ENERGY MANAGEMENT SYSTEM

The unique energy management system allows you to track energy usage, as well as solar electricity production, in real time on your iPad® or smart phone.

Remotely control lights, monitor the front door and activate the home security system via your smart device. Use the USB smart sensor ports to avoid overcharging devices.

8

## SOLAR THERMAL WATER HEATER

The Velux® solar water heater can save you up to 80% on water heating costs.

9

## SOLAR TECHNOLOGY

From sunrise to sunset, the SunPower® solar power system automatically converts sunlight to electricity and helps reduce energy costs.

10

## WATERSENSE LABELED HOME

A WaterSense® labeled home allows you to do more at home while using less water, energy and money on utilities. This home's faucets, toilets and showerheads use up to 30% less water than standard models.

11

## NET-ZERO ENERGY EXTRAS

The indoor residential electric vehicle (EV) charger is an easy-to-install and user-friendly solution for recharging vehicles at home. Additionally, to protect the electronic devices in your home, you can choose a built-in whole-house surge protection device.



# BUILT TO ORDER zeroHOUSE 2.0

## Two Zeros Are Better Than One

- First home with net-zero energy and zero freshwater for irrigation
- Two state-of-the-art water recycling systems
- Real-time water usage monitor
- Estimated \$4,400 in annual energy & water cost savings versus resale home

