

ENERGY STAR Certified Home Briefing

March 28, 2018

U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy



Why Zero Now?

SAM RASHKIN

Chief Architect

Building Technologies Office



What is Zero?

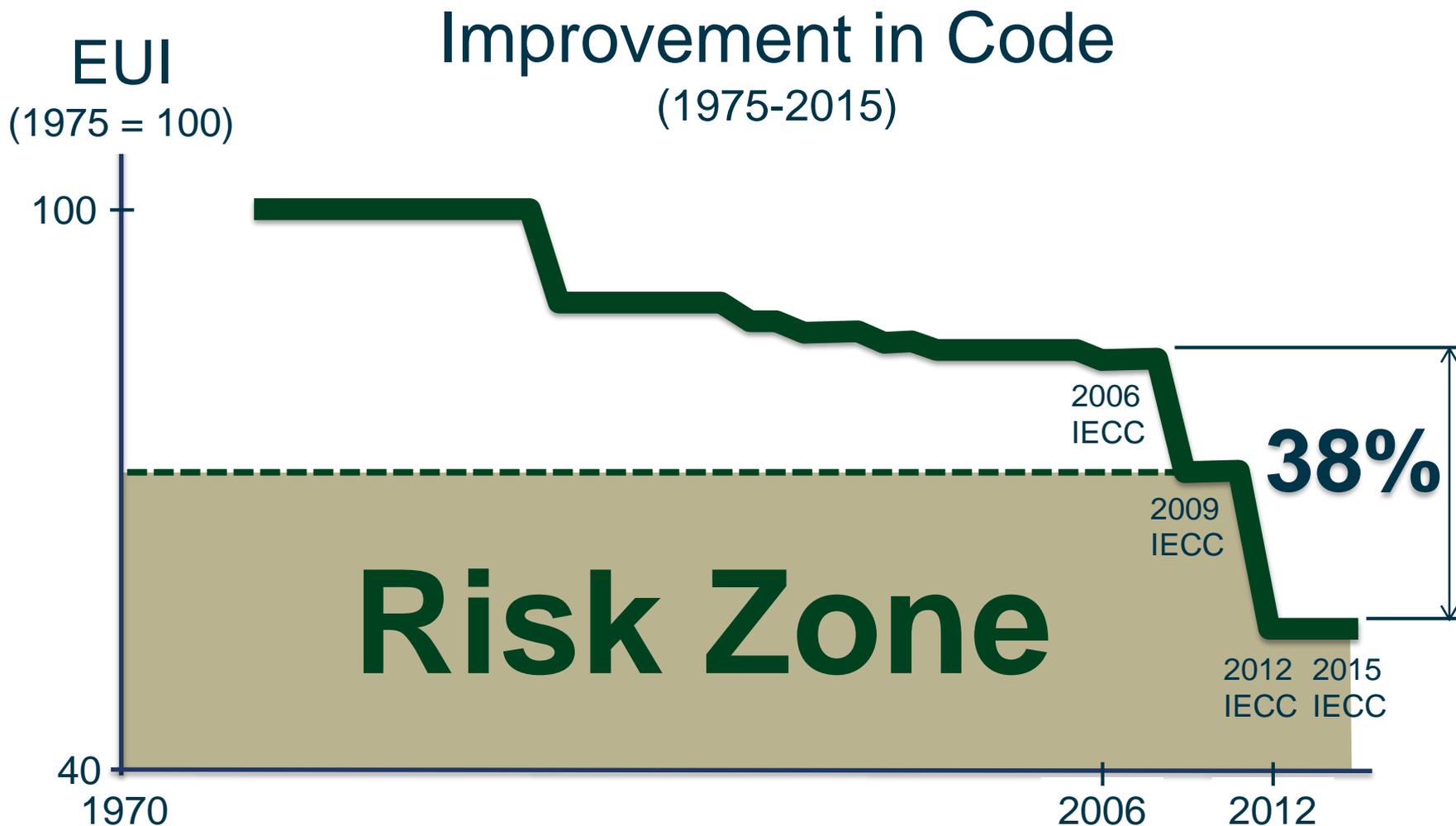
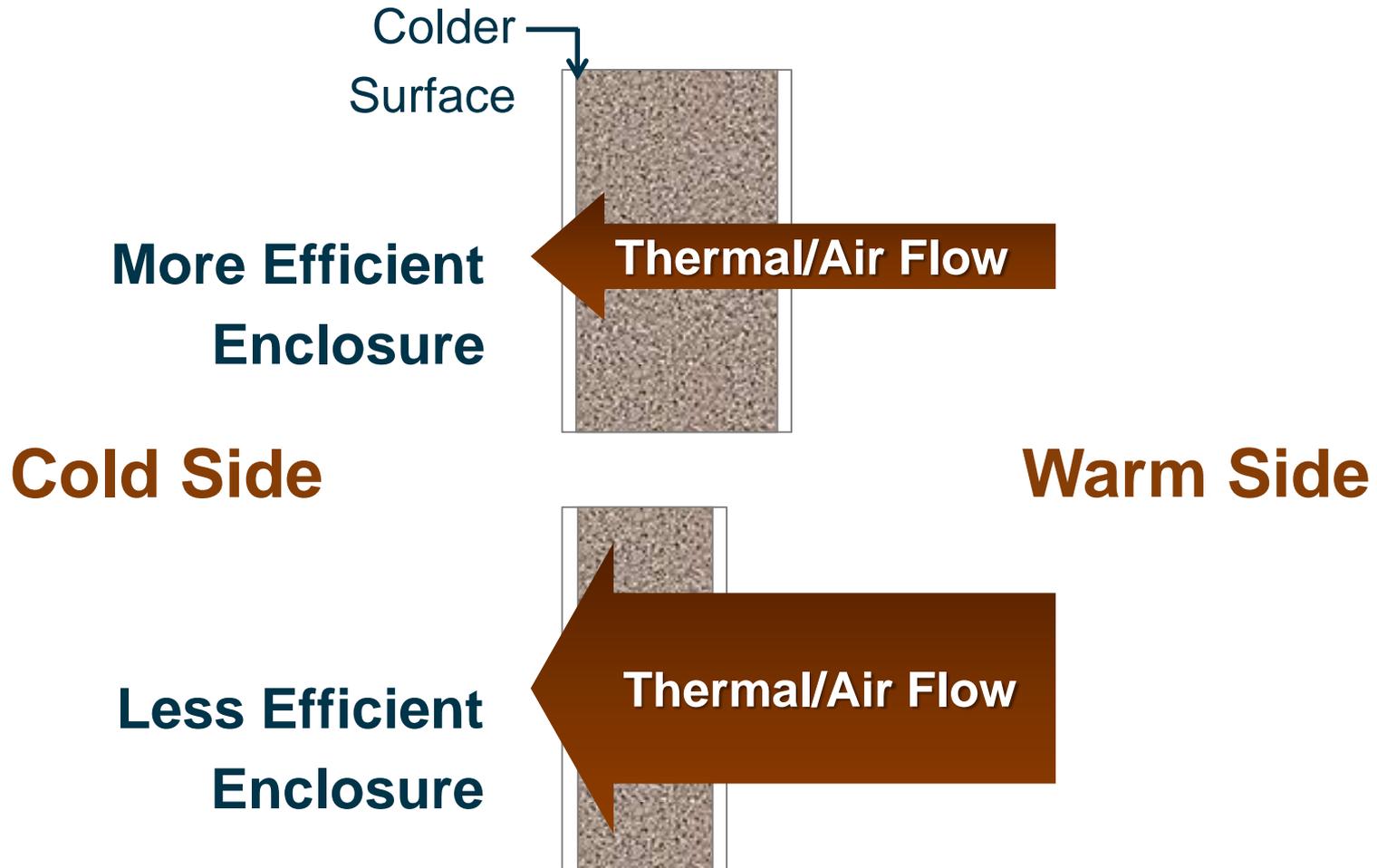
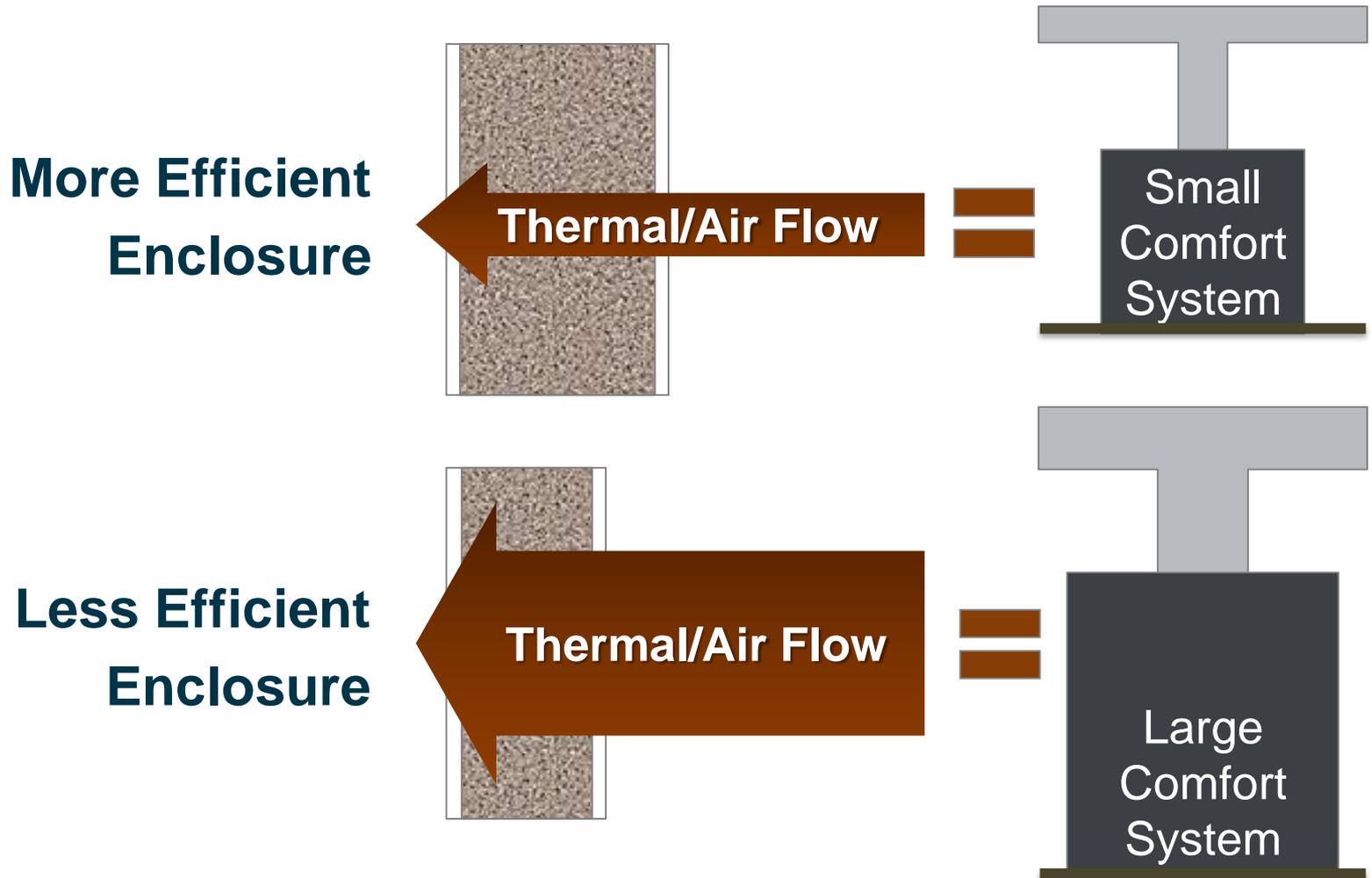


Image Basis: Building Energy Codes Program: National Benefits Assessment, 1992-2040,
https://www.energycodes.gov/sites/default/files/documents/BenefitsReport_Final_March20142.pdf

Risk 1: More Wetting Potential

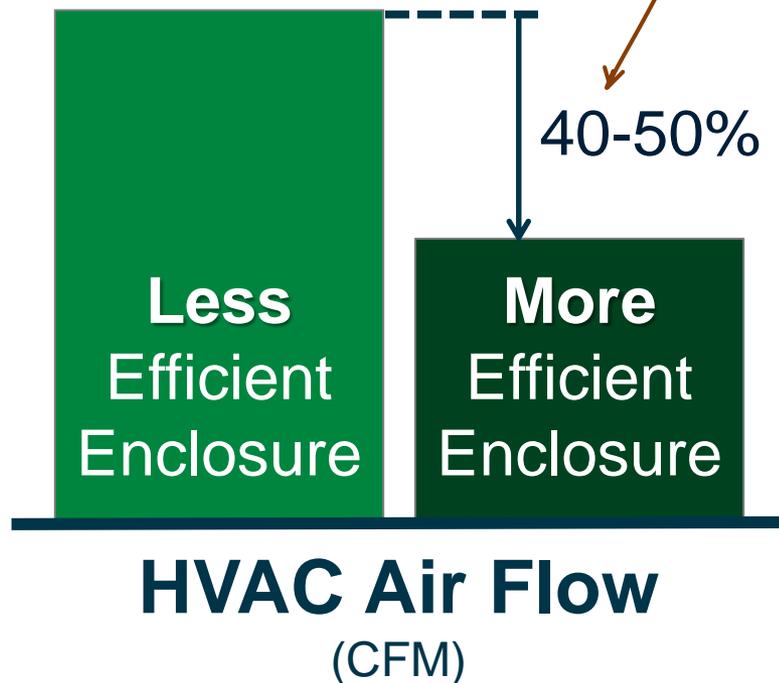


Risk 2: More Comfort Challenges



Challenge:

Ensure Mixing with
Less Air Flow

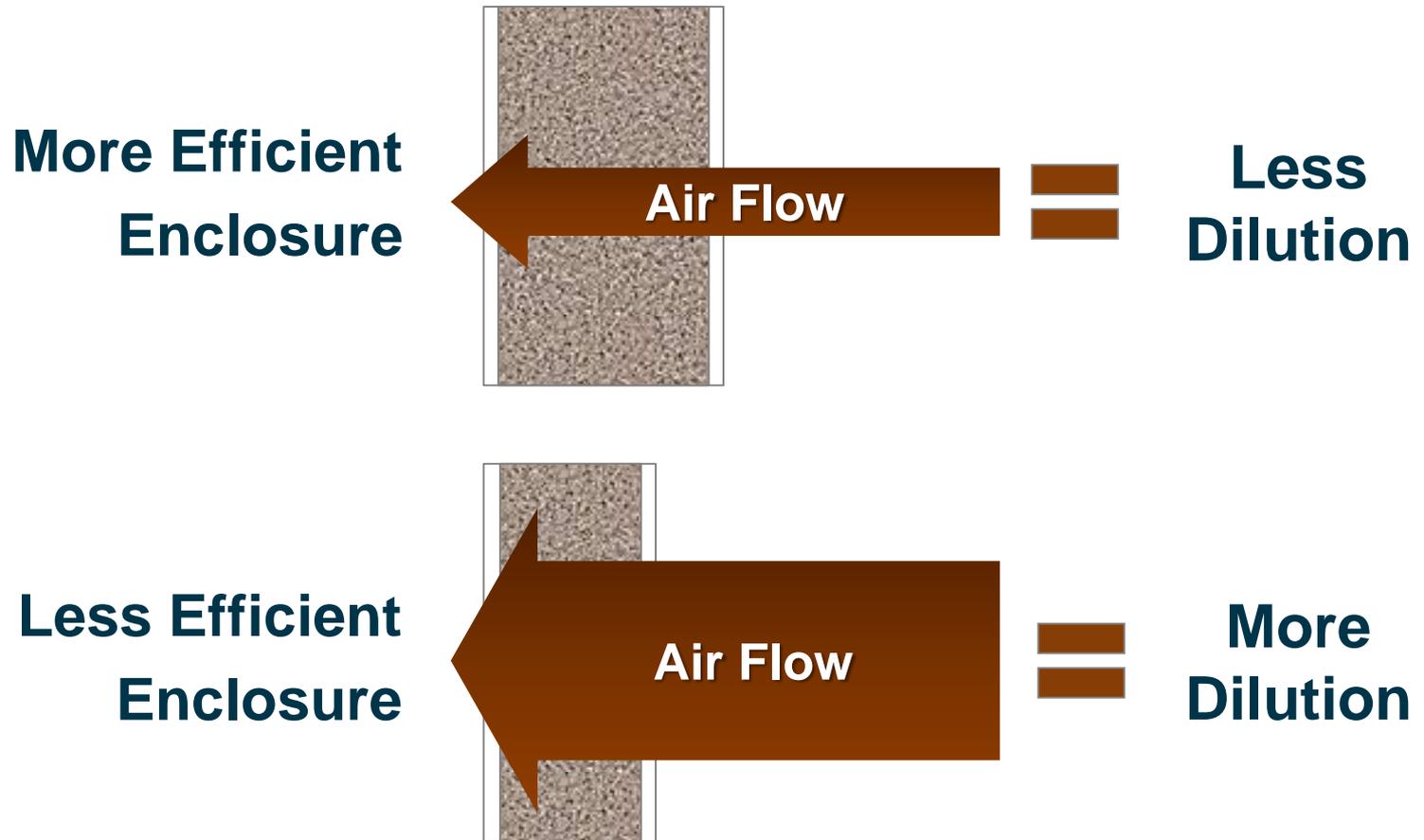


Challenge:

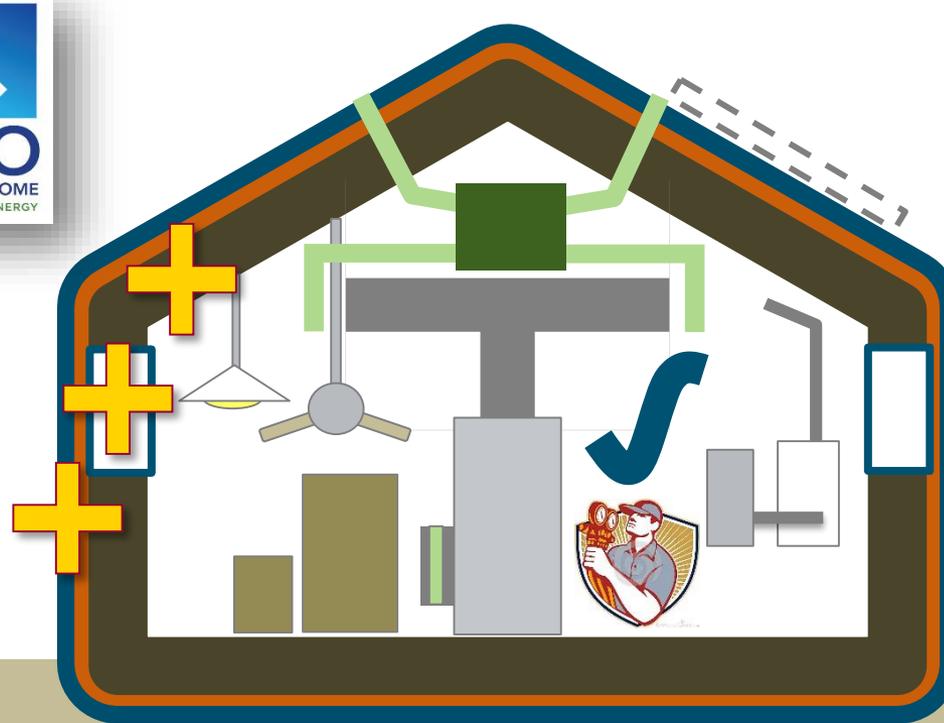
Ensure Humidity Control
when No Sensible Load



Risk 3: More Indoor Contaminants

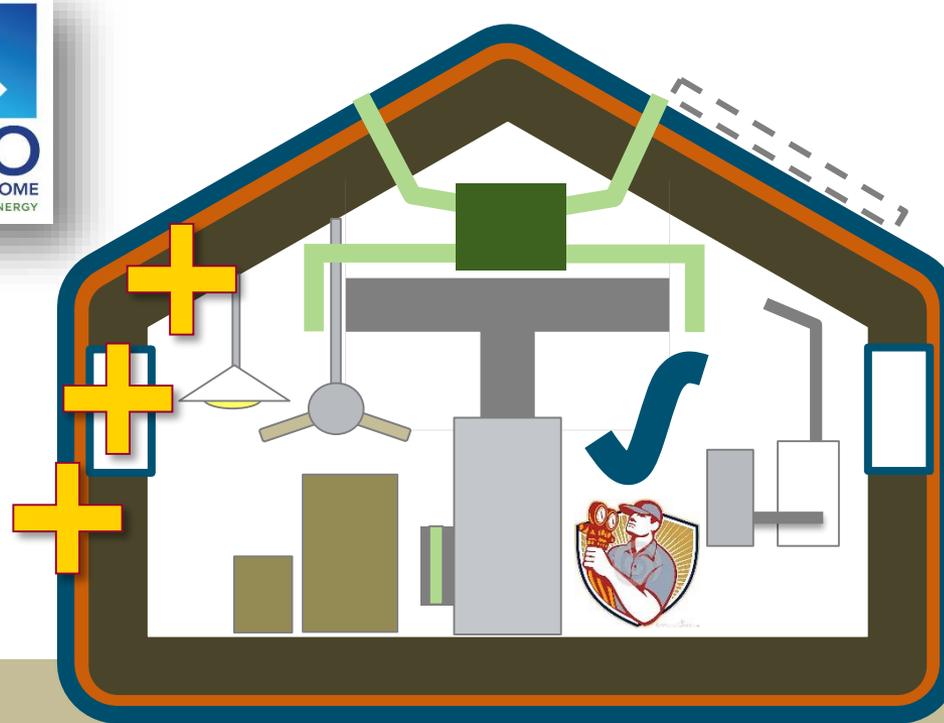


Zero = Risk Management



Optimized Enclosure	Efficient Components	Water Protection	Ensured Comfort	Indoor Air Quality	Solar Ready
Energy Efficiency		Performance			0 Ready

Zero = Risk Management



Optimized
Enclosure

Efficient
Components

Water
Protection

Ensured
Comfort

Indoor Air
Quality

Solar
Ready

Energy Efficiency

Performance

0 Ready

Zero = The Future

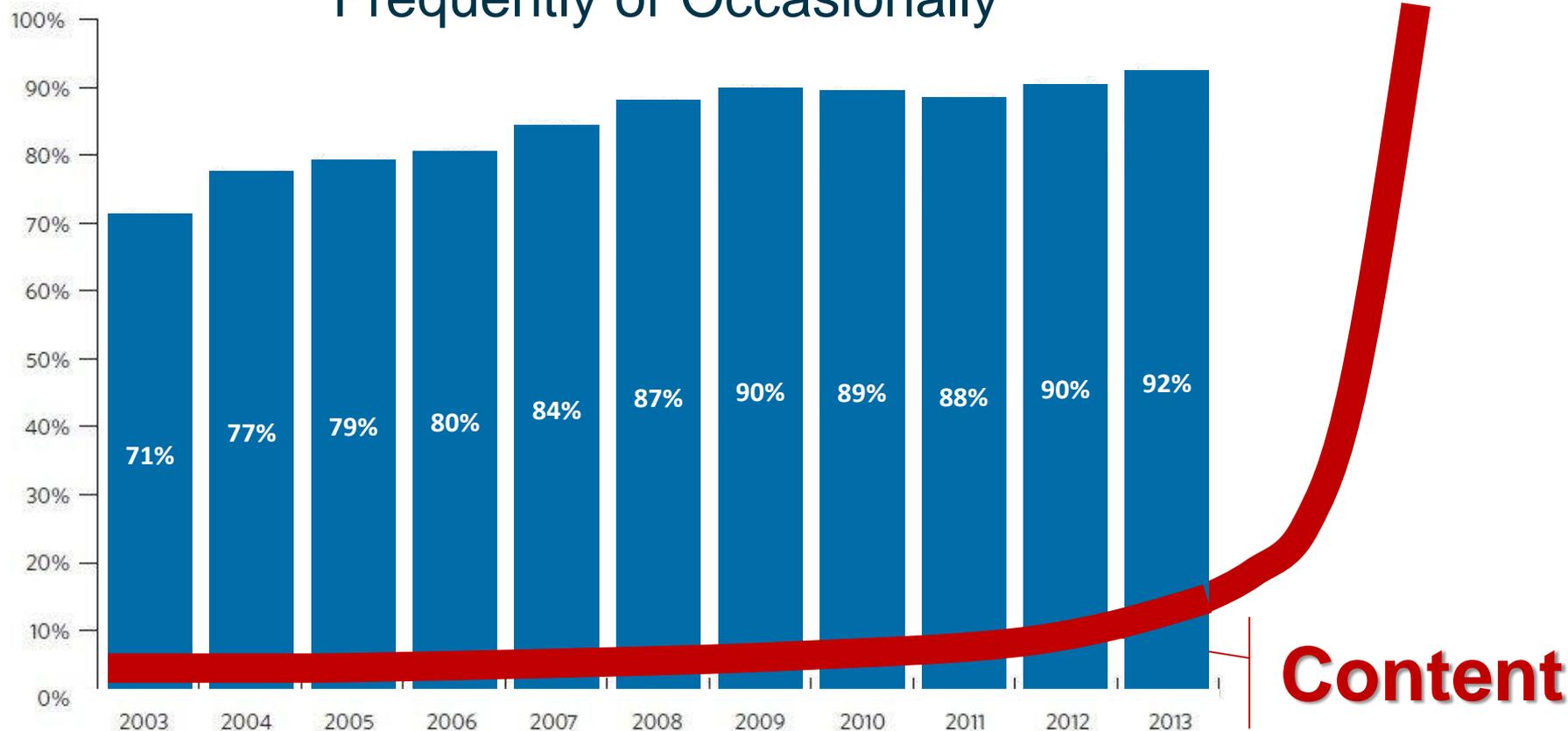


Source: Tesla Corporation



Why Zero Now?

Frequently or Occasionally



Source: National Association of Realtors®



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future

What is BBC Future?

Latest

Future Now

Video

OUR PICKS

Best of Future

SPECIAL SERIES

Grand Challenges

Tomorrow's Skies

PRESENTED BY:

Plymouth University psychologists 2014 study showed that householders who received thermal images of their homes were

4.9 times more likely

to install draught proofing than those just presented with an energy audit

Sustainability | Electricity | Britain

The man who makes you see the invisible

britain

special series

One solution for reducing carbon footprints – and household bills – is increased energy efficiency. With infrared imaging, inventor Brian Harper is helping people to see exactly how.

By Nic Fleming

14 June 2017

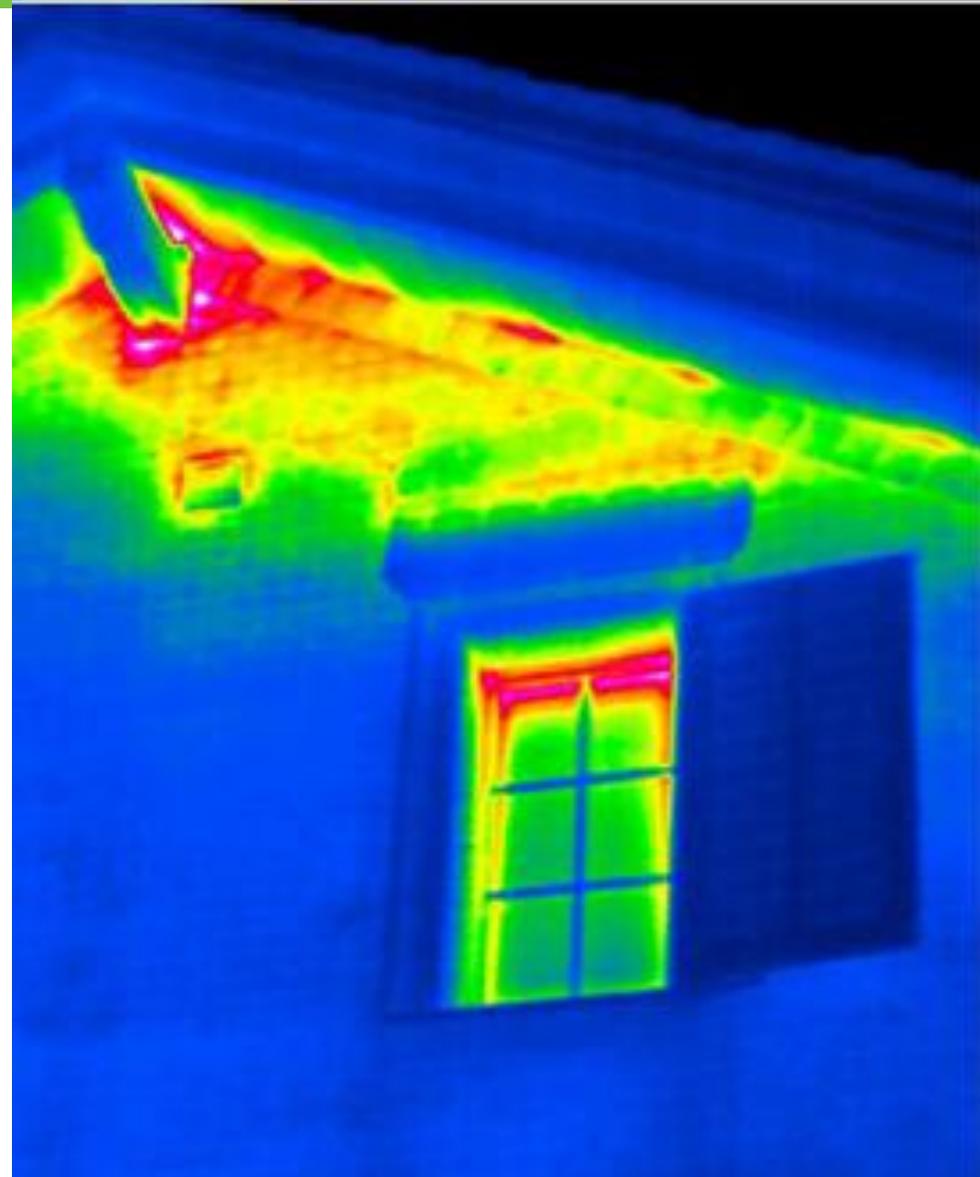
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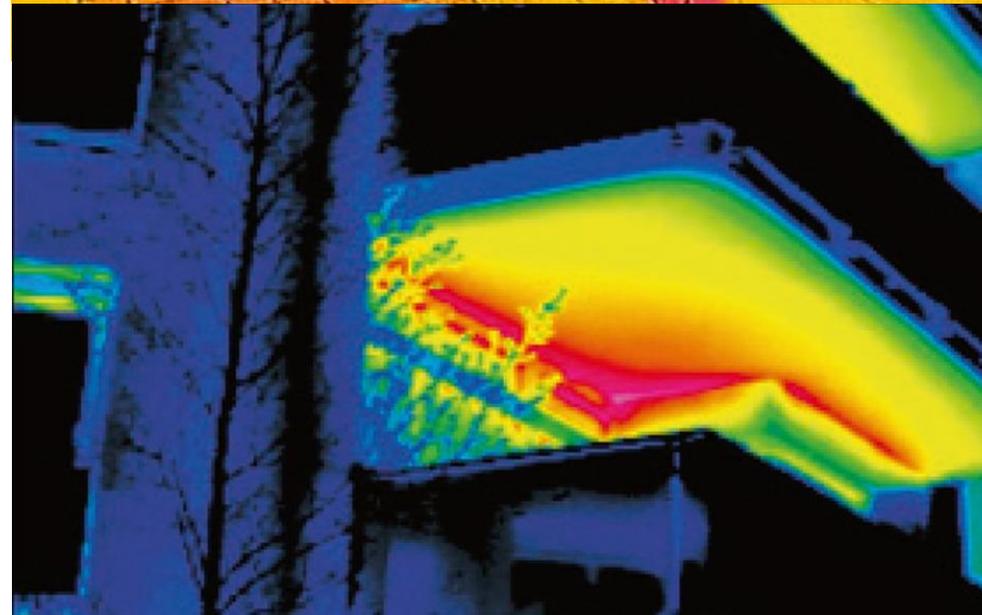
...will know a lot more about

Insulation Defects



...will know a lot more about

Cold Floors



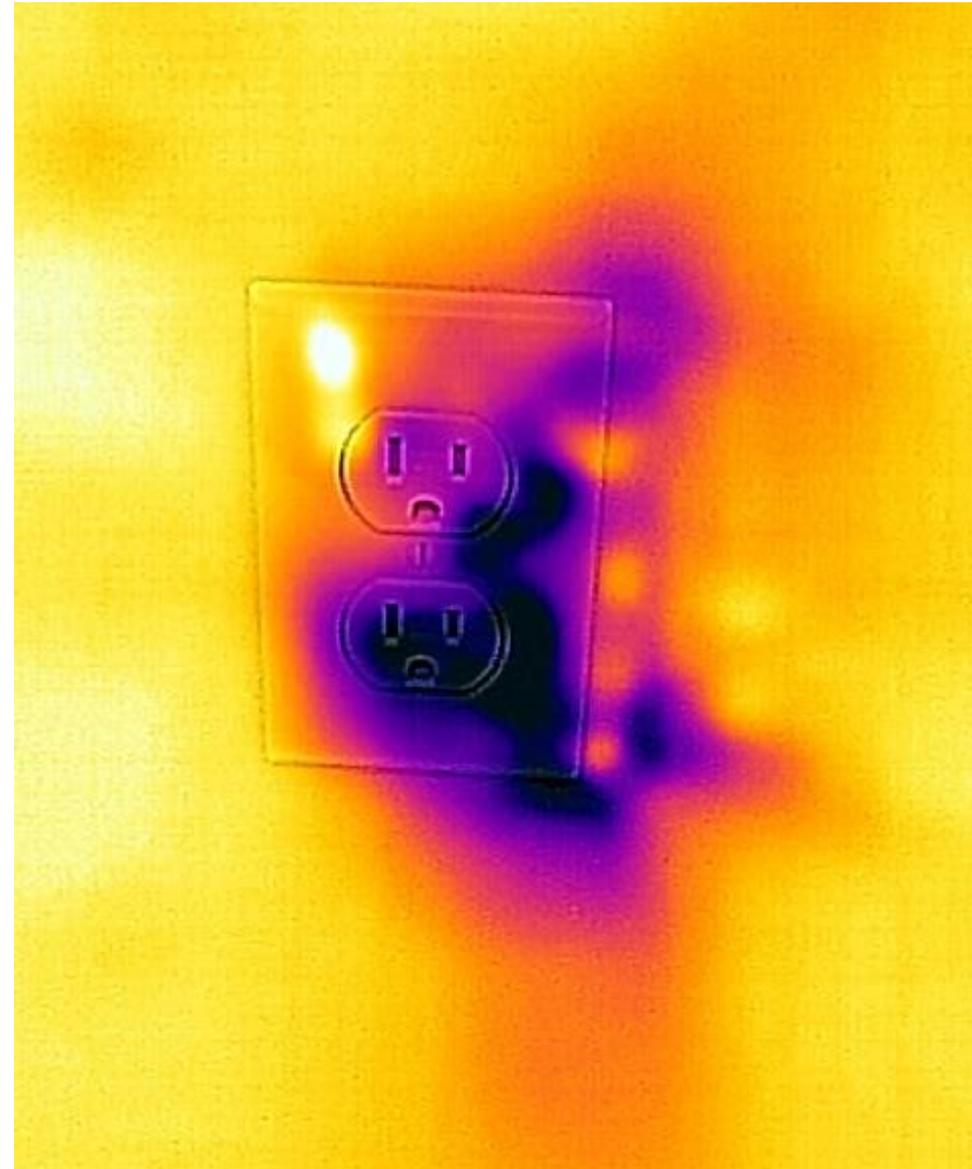
...will know a lot more about

Thermal Bridging



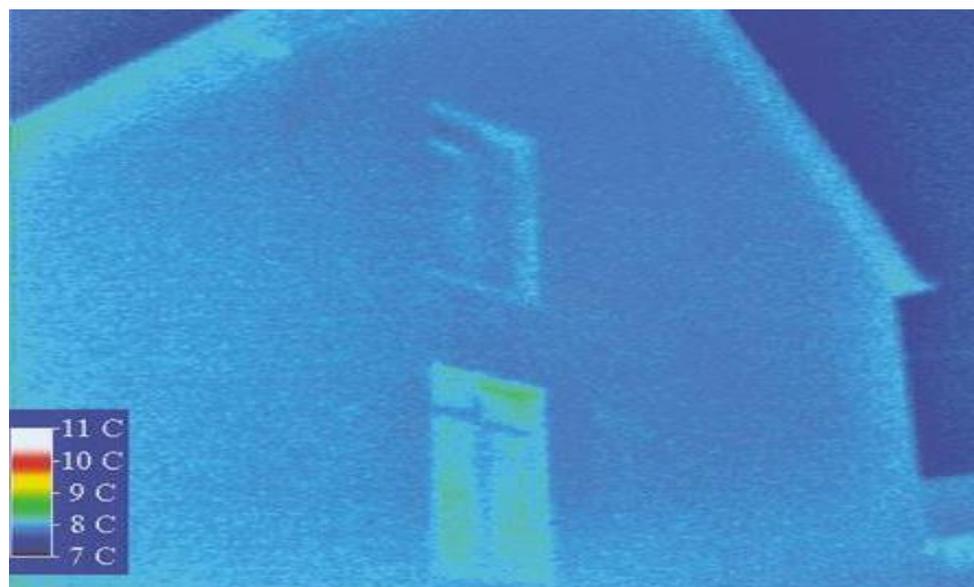
...will know a lot more about

Drafty Rooms



...will know a lot more about

Quality Windows



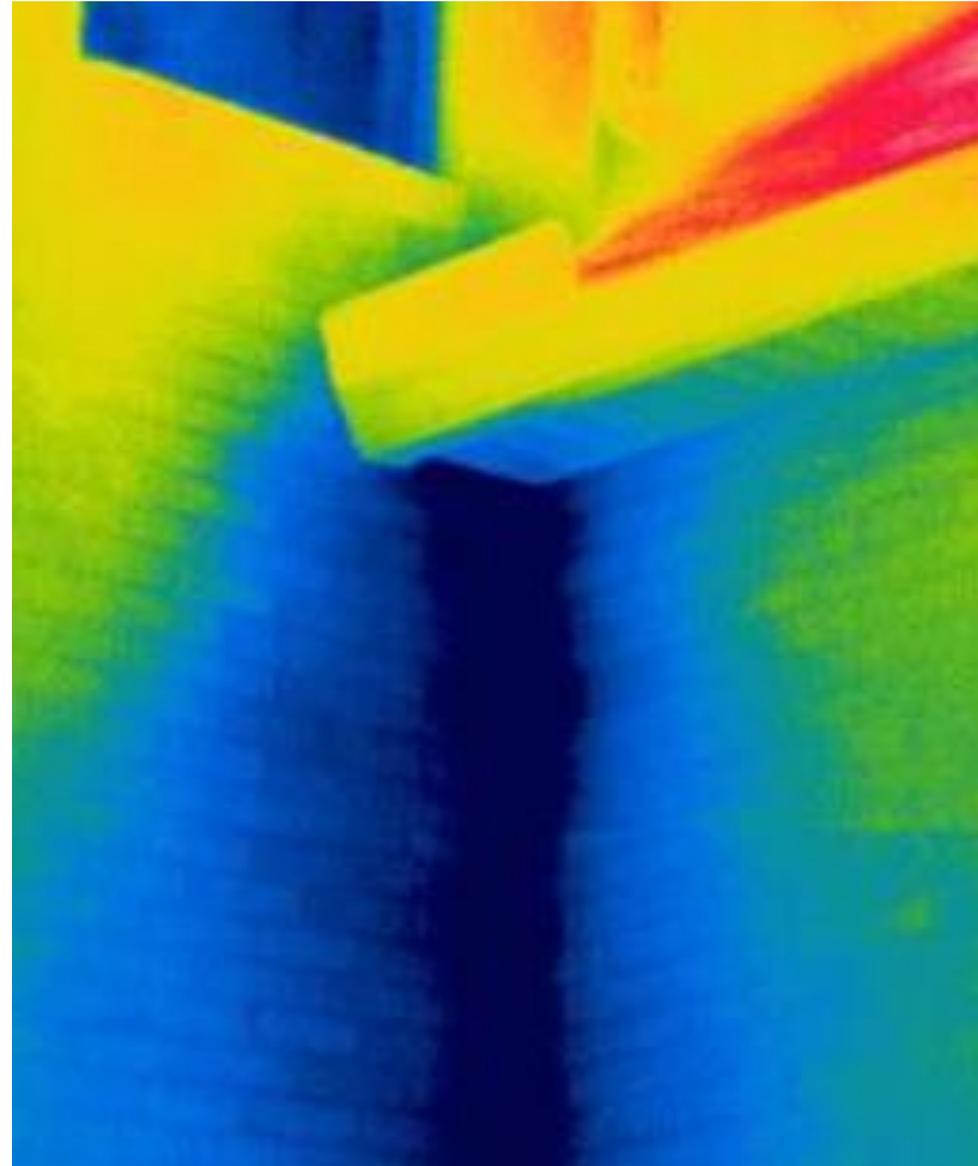
...will know a lot more about

Moisture Risks



...will know a lot more about

Moisture Risks

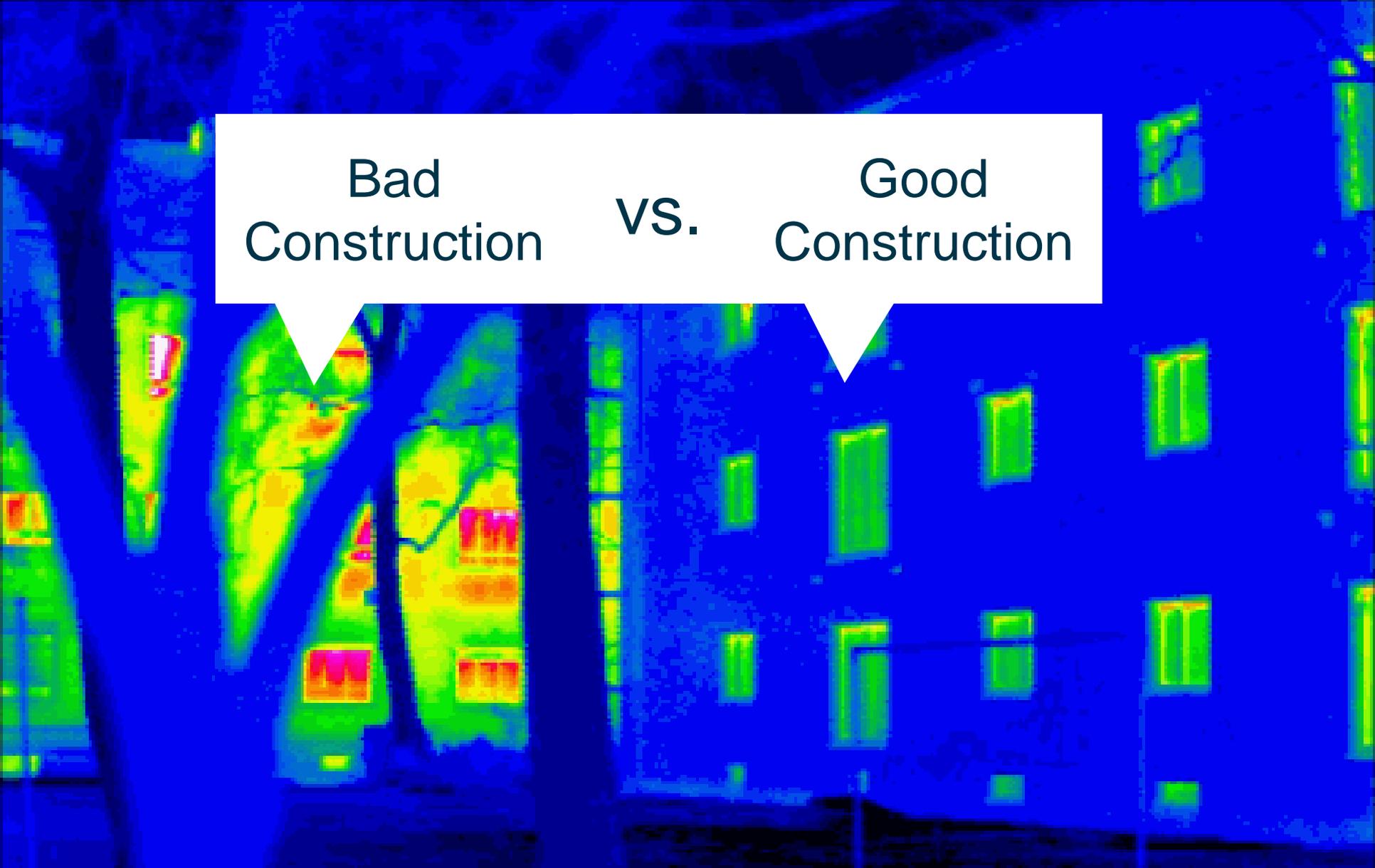


Informed Buyers will Know...

Bad
Construction

VS.

Good
Construction



...will know a lot more about

True Comfort



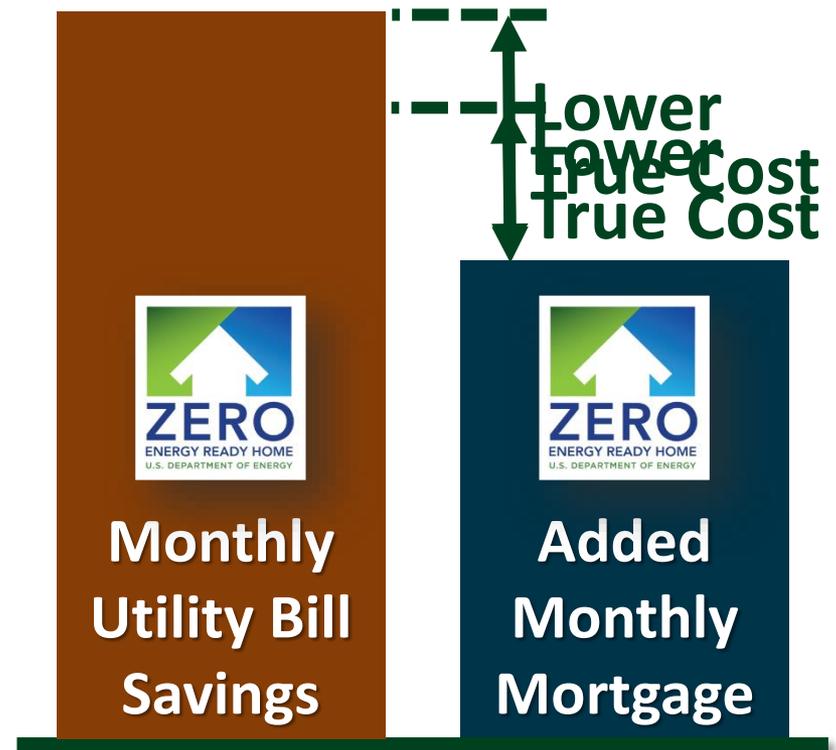
...will know a lot more about

Health Risks



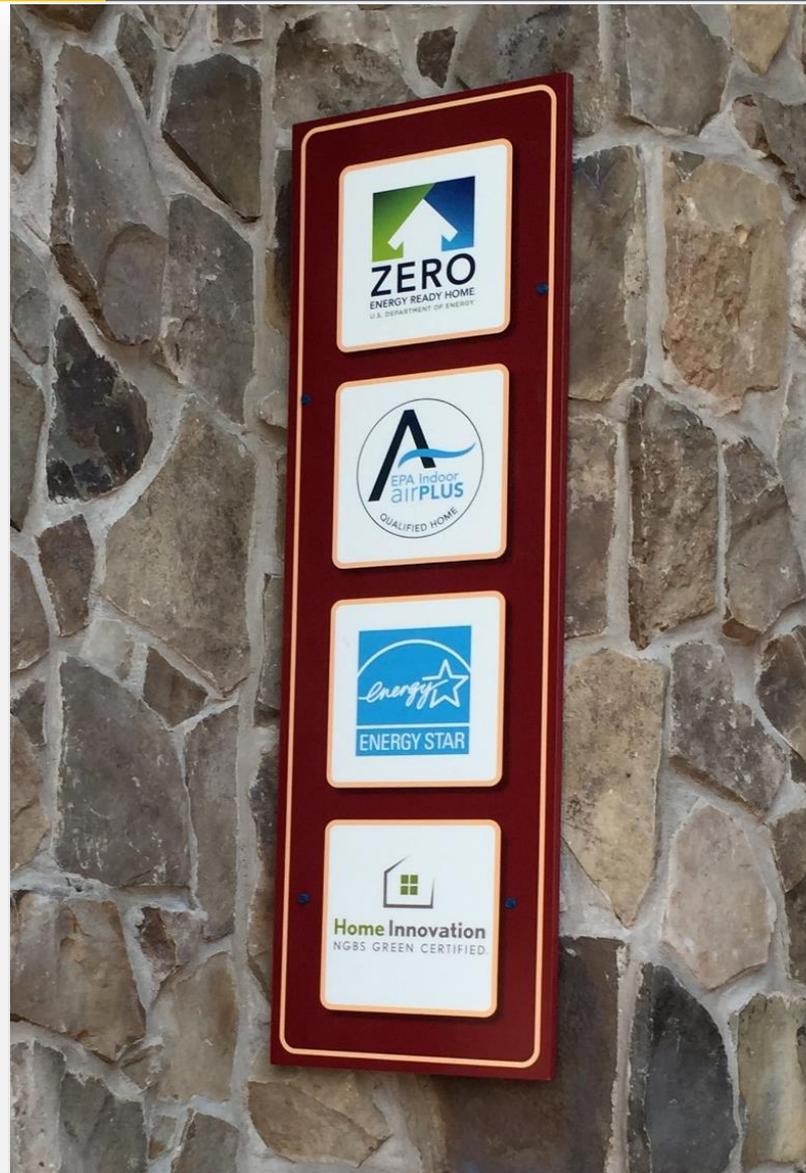
...will know a lot more about

True Cost



...will know a lot more about

Trusted Performance



...will know more about a
**Better
Home
Experience**

Builders

FREE SHIPPING PAGES

Your Houzz



Net Zero Homes LLC
Orange County's Leading Insulated Concrete Forms Installer
With over 18 years of construction experience, quality construction at an affordable price is our priority. If...
[See my projects](#)

(352) 571-1720

Contact



Legacy Custom Built Homes
★★★★★ 1 Review
We are passionate builders, of relationships, dreams and dream homes. Founded in 2006, Legacy Construction's...
[Read More](#)

(407) 949-4995 Winter park, FL, 32789

Contact



Forever Homes
★★★★★ 11 Reviews
Volusia County's Premier Custom Home Builder
To insure that our clients are getting their "Forever" home, we work closely with them from the design stage all...
[See my projects](#)

(386) 563-3457 Orlando area

Contact



★★★★★ 2 Reviews

Contact



Christopher Burton Homes, Inc.
★★★★★ 15 Reviews
Brevard County Homebuilder - 4X Best of Houzz Award Winner!
Our motto, "Building homes for life & relationships for a lifetime," is more than a slogan to us. We work with...
[See my projects](#)

(321) 369-9374 9 projects in the Orlando area

Contact



Mark Gamble Homes & Renovations
★★★★★ 1 Review
30 years of new home construction and renovations [Read More](#)

Contact

...will increasingly know the

**Zero is the
Experience
They Have
to Have**





How Communicate Zero?

- **Message:** Better Experience
- **Showcase:** Better Experience
- **Clarity:** Better Experience

Message: Better Experience

[Home](#) » [Residential Buildings](#) » [Zero Energy Ready Home](#) » [DOE Tour of Zero](#)

Are you ready for a home that lives, works, and lasts better? The home of the future - [a better home](#) - is available today. Take a virtual tour of homes that are so energy efficient a renewable energy system can offset all or most of their annual energy consumption. These award-winning homes are independently certified to meet DOE Zero Energy Ready Home [guidelines](#) and constructed by a select group of [top builders](#). Zero Energy Ready Home is part of the U.S. Department of Energy's Better Buildings initiative. Better Buildings aims to make commercial, industrial, public, and residential buildings 20 percent more energy efficient over the next decade.



Click on a climate zone to see homes in that region.

Search:

Showing 1 to 25 of 123 entries

Show
entries



[The Home of the Future Today Video](#) [Next Video](#)

Simple Core Message

Message: Better Experience



Are you
READY
for a
superior home living
Experience?

Message: Better Experience



Then welcome to
**Zero Energy
Ready Home**
from the U.S.
Department of Energy.



Experience
\$10,000's
of savings
on utility bills over
a 30-year mortgage.



Experience
**Full Thermal
Protection**
from the hottest and
coldest weather.



Experience
Total Comfort
at a whole new level
with advanced
heating and cooling.



Experience
Healthy Living

with contaminants
kept out the air you
breathe every day.



Experience

Peace-of-Mind

from moisture problems
with comprehensive
water protection.



Experience
**Certified
Performance**
with a home
independently tested
and inspected to the
most rigorous
federal guidelines.



Experience
**Enhanced
Future Value**
with construction that
meets and exceeds
forthcoming codes.

Message: Better Experience



<https://energy.gov/eere/buildings/zero-energy-ready-home-homebuyers>

Visit the Zero Energy Ready Home website for more information how you can get a **Better Home Experience.**

Housing Innovation Awards Feeds Tour of Zero



Showcase: Better Experience

[Home](#) » [Residential Buildings](#) » [Zero Energy Ready Home](#) » [DOE Tour of Zero](#)

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Search:

SEARCH

RESET

Showing 1 to 25 of 123 entries

Show

25



entries



[The Home of the Future Today Video \(Text Version\)](#)

Showcase: Better Experience

Search:

Showing 1 to 13 of 13 entries (filtered from 123 total entries)

Show
entries

TOUR THESE HOMES ▲	BUILDER ▲	LOCATION ⚡	HIA WINNER ⚡	CLIMATE ZONE ⚡
Air Park Drive	Addison Homes	Greer, SC	2016 HM	MIXED-HUMID
Cobbler Lane	Addison Homes	Greer, SC	2015	MIXED-HUMID
Invision Zero Home	Addison Homes	Greer, SC	2016	MIXED-HUMID
The Emery	Addison Homes	Greer, SC	2016	MIXED-HUMID
Friendly Home	Ferguson Design & Construction Inc.	Sagaponack, NY	2013	MIXED-HUMID
Julia Plan	Habitat for Humanity of Catawba Valley	Hickory, NC	2016	MIXED-HUMID
The Villas at Rocketts Landing	Health E Community Enterprises of Virginia	Williamsburg, VA	2016	MIXED-HUMID
Euclid Avenue	Heirloom Design Build	Atlanta, GA	2015	MIXED-HUMID
High-Performance Bungalow	Imery & Co.	Athens, GA	2016	MIXED-HUMID
EXIT-0 House	John Hubert Associates	Wyncote, PA	2014	MIXED-HUMID
Charlottesville Infill	Promethean Homes	Steeles Tavern, VA	2014	MIXED-HUMID
First DOE Zero Energy Ready Manufactured Home	Southern Energy Homes	Russellville, AL	2014	MIXED-HUMID
Proud Green Home	The Imery Group	Athens, GA	2014	MIXED-HUMID



DOE Tour of Zero: The Emery by Addison Homes

Home > DOE Tour of Zero: The Emery by Addison Homes



"THE DOE ZERO ENERGY READY HOME PROGRAM HAS SET A STANDARD THAT IS TRULY 'BEST IN CLASS' AND IS PULLING OUR INDUSTRY TOWARD A QUALITY REVOLUTION."

**Consumer
Experience**

DOE Tour of Zero: The Emery by Addison Homes

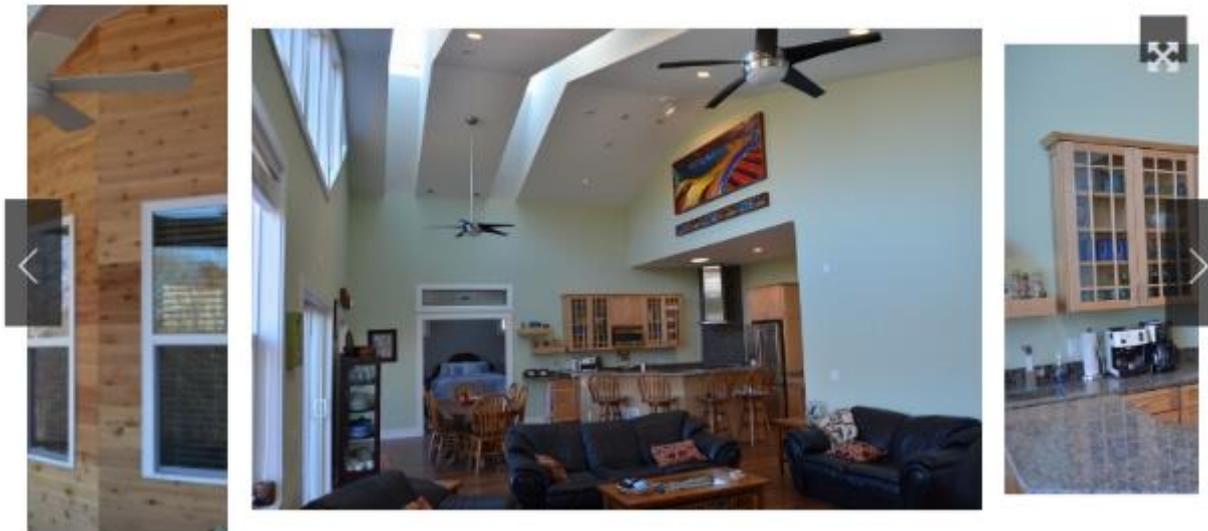
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DOE Tour of Zero: The Emery by Addison Homes

Home » DOE Tour of Zero: The Emery by Addison Homes



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Showcase: Better Experience

"THE DOE ZERO ENERGY READY HOME PROGRAM HAS SET A STANDARD THAT IS TRULY 'BEST IN CLASS' AND IS PULLING OUR INDUSTRY TOWARD A QUALITY REVOLUTION."

DOE Zero Energy Ready Home: Partner Profile

Addison Homes, LLC



Partner ID: 549
 Organization Type: Builder
 Main Contact: Todd Usher
 Address: 16 PARKWAY COMMONS WAY
 CREEK, SC 29550
 Primary Phone Number: (864) 848-2667
 Certified DOE Zero Energy Ready Homes (2012 - Present): 5
 Certified Builders Challenge Homes (2006 - 2012): 2
 Website: www.addison-homes.com
 HIA Winner: 2015, 2016, 2016, 2016



- High-efficiency lighting technology
- High-efficiency energy and water savings

[Read more.](#)



Addison Homes Energy

Key Stats

Contact Info

Innovations (Power Words)

4,551 ft²
 3 bedrm, 2 bath
 1 floor
 3A mixed-humid custom for buyer

HERS 21 This home's score w/PV
 0 = a net zero energy home
 100 = typical new code home
 130 = average existing home

Avg. Monthly Energy Bill:
\$71
 Calculated vs. 2009 IECC home

Annual Savings:
\$2,412
 Calculated vs. 2009 IECC home

30-yr Mortgage Savings:
\$125,500+
 Calculated with fuel escalation rate per 2014 EIA Annual Energy Outlook

National Campaign:

Inspire consumers
to visit the home of the future...
available today...
DOE Zero Energy Ready Homes.

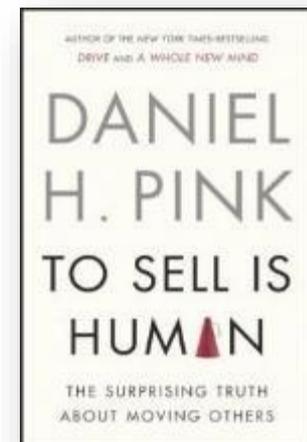
Innovation Partners:

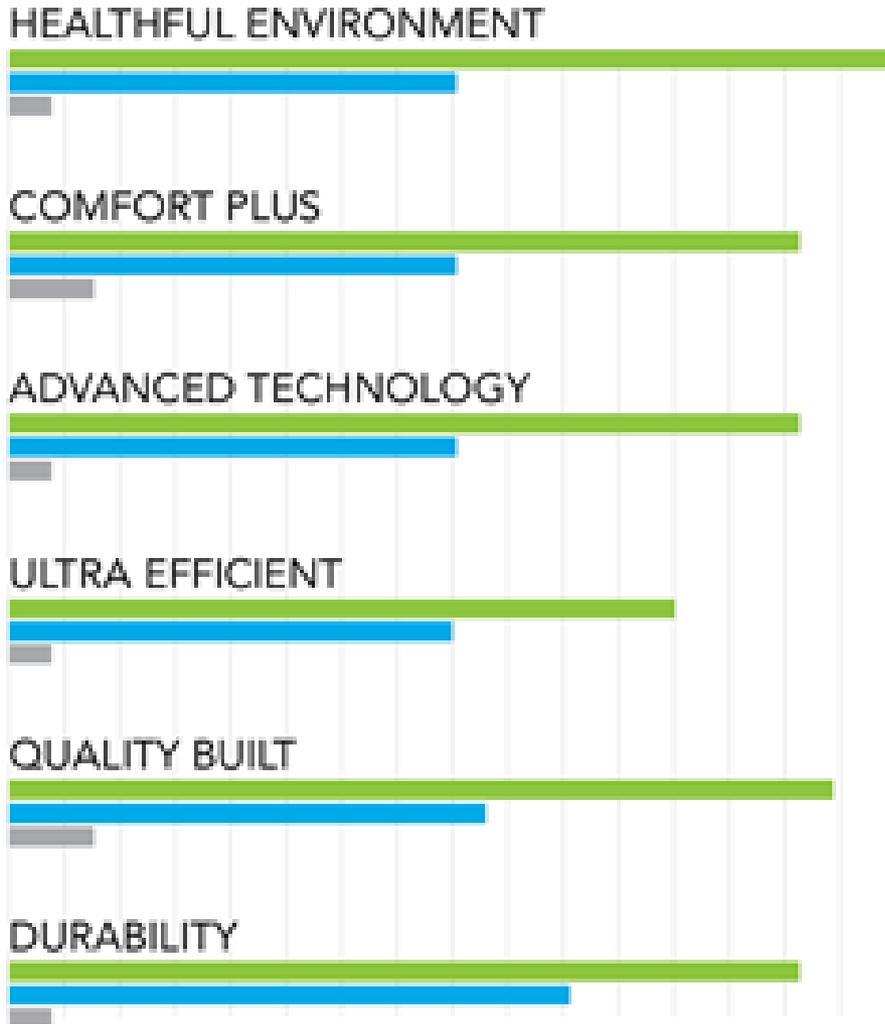
- Manufacturers
- Associations
- Utilities
- Lenders



Clarity depends on contrast.

We often understand something better
when we see it in comparison
with something else
than when we see it in isolation.





ZERH Comparison Bars

Key:

- DOE Zero Energy Ready Home
- ENERGY STAR Certified Home
- Existing Home

DOE Zero Energy Ready Home Label Methodology

October 2012

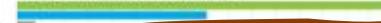


Homes to the Power of **ZERO**



A Symbol of Excellence

HEALTHFUL ENVIRONMENT



COMFORT PLUS



ADVANCED TECHNOLOGY



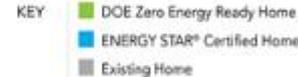
ULTRA EFFICIENT



QUALITY BUILT



DURABILITY



This graphic comparison chart demonstrates relative performance of this DOE Zero Energy Ready Home to existing homes (built between 1990 and 2010) and ENERGY STAR Certified Homes. Actual performance may vary.

What is the DOE Zero Energy Ready Home™ Label?

It is a Symbol of Excellence for energy savings, comfort, health, quality, and durability met by a select group of leading builders meeting U.S. Department of Energy Guidelines.

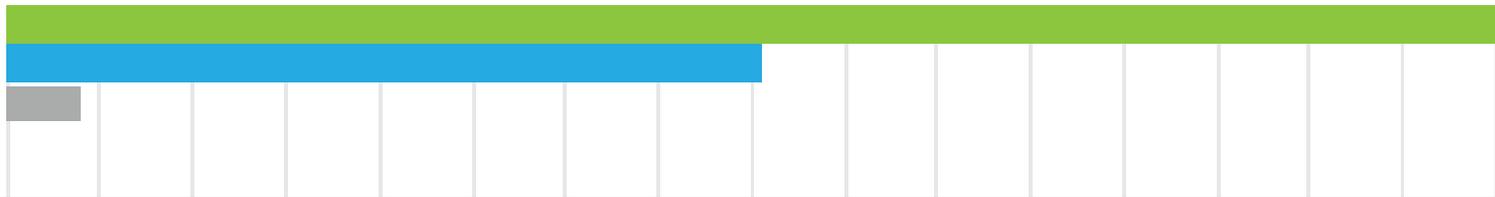
What is a Zero Energy Ready Home?

It is a high-performance home so energy efficient, all or most annual energy consumption can be offset with renewable energy. In other words, it is the Home of the Future.



303-231-4567
ThriveHomeBuilders@net.com
123 Main Street, Denver, CO 34567

HEALTHFUL ENVIRONMENT



- KEY**
-  DOE Zero Energy Ready Home
 -  ENERGY STAR Home
 -  Existing Home

This label indicates relative performance of this DOE Zero Energy Ready Home to existing homes (built between 1990 and 2010) and ENERGY STAR qualified homes. Actual performance may vary.



U.S. DEPARTMENT OF
ENERGY

Clarity: Better Experience



Front Cover



Lives Better

HEALTHFUL ENVIRONMENT

Every DOE Zero Energy Ready Home has a comprehensive package of measures to minimize dangerous pollutants, provide continuous fresh air, and effectively filter the air you breathe.

COMFORT PLUS

Superior insulation, windows, air sealing and space conditioning systems included in every DOE Zero Energy Ready Home surround you with even temperatures, low-humidity, and quiet in every room on every floor.

KEY

- DOE Zero Energy Ready Home
- ENERGY STAR Certified Home
- Existing Home



Works Better

ADVANCED TECHNOLOGY

Every DOE Zero Energy Ready Home begins with solid building science specified by ENERGY STAR for Homes, and then adds advanced technologies and practices from DOE's world-class research program, Building America.

ULTRA EFFICIENT

Compared to a typical home, an ultra efficient Zero Energy Ready Home is inexpensive to own. In fact, every DOE Zero Energy Ready Home is so energy efficient, a small solar electric system can easily offset most, or all, of your annual energy consumption. We call this Zero Net-Energy Ready.



Lasts Better

QUALITY BUILT

Advanced construction practices and technologies are specified for every DOE Zero Energy Ready Home. Then they are enforced by independent verifiers with detailed checklists and prescribed diagnostics.

DURABILITY

The advanced levels of energy savings, comfort, health, durability, quality and future performance in every DOE Zero Energy Ready Home provide value that will stand the test of time, and will meet and exceed forthcoming code requirements.

LEARN MORE AT: buildings.energy.gov/zero

Inside Spread

The Future of Housing—Today

Only a select group of the top builders in the country meet the extraordinary levels of excellence and quality specified by U.S. Department of Energy guidelines.




LEARN MORE AT:
buildings.energy.gov/zero

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123 Main Street, Denver, CO 34567




A Symbol of Excellence

HEALTHFUL ENVIRONMENT

COMFORT PLUS

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- DOE Zero Energy Ready Home
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Flap

Back Cover



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VIVID LIVING HEALTHFUL ENVIRONMENT



Fresh Air

- Supply Fresh Air System
- Odor and Moisture Control Fans
- High-Capture Filtration Technology

Quiet

- Quiet Window Technology
- Quiet Wall Technology

Moisture Control

- Dry-by-Design Construction
- Moisture Control System - Whole House
- Moisture Controlled Comfort System
- Moisture Controlled Windows
- Moisture Controlled Lower Level

Pest Control

- Bug Control Barrier
- Pest Screened Home

Outdoor Contaminant Control

- Contaminant Sealed Construction
- Contaminant Sealed Comfort Delivery
- Dust and Pollen Barrier
- Radon Controlled Home

Chemical Control

- Formaldehyde Controlled Home
- VOC Controlled Home

Fume Control

- Carbon Monoxide Controlled Equipment
- Carbon Monoxide Controlled Fireplace
- Fume Controlled Garage

Vivid Living • 42 Sample Street, Suite 500, Anytown, MA 02460 • 617.457.3902 • www.vividliving.com

Clarity: Better Experience



A Symbol of Excellence

Every Zero Energy Ready Home offers a cost-effective, high performance package of energy savings, comfort, health and durability unparalleled in today's marketplace.



Lives Better

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COMFORT PLUS



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DURABILITY



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■ ENERGY STAR Certified Home
■ Existing Home

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Front Cover

Inside Spread

Flap

Back Cover

**My power bill is \$5.
What's yours?**

- Heather Robbins, Garbett Homeowner

garbettHOMES.com
Now you're living.

ZERO
ENERGY READY HOME
U.S. DEPARTMENT OF ENERGY

“Our daughter couldn’t breathe
without discomfort for years.
Within two months of moving into
our new Cobblestone home

we threw away

the inhaler.

**That was
priceless!”**

Charly and Mary Jones,
Cobblestone Homeowner



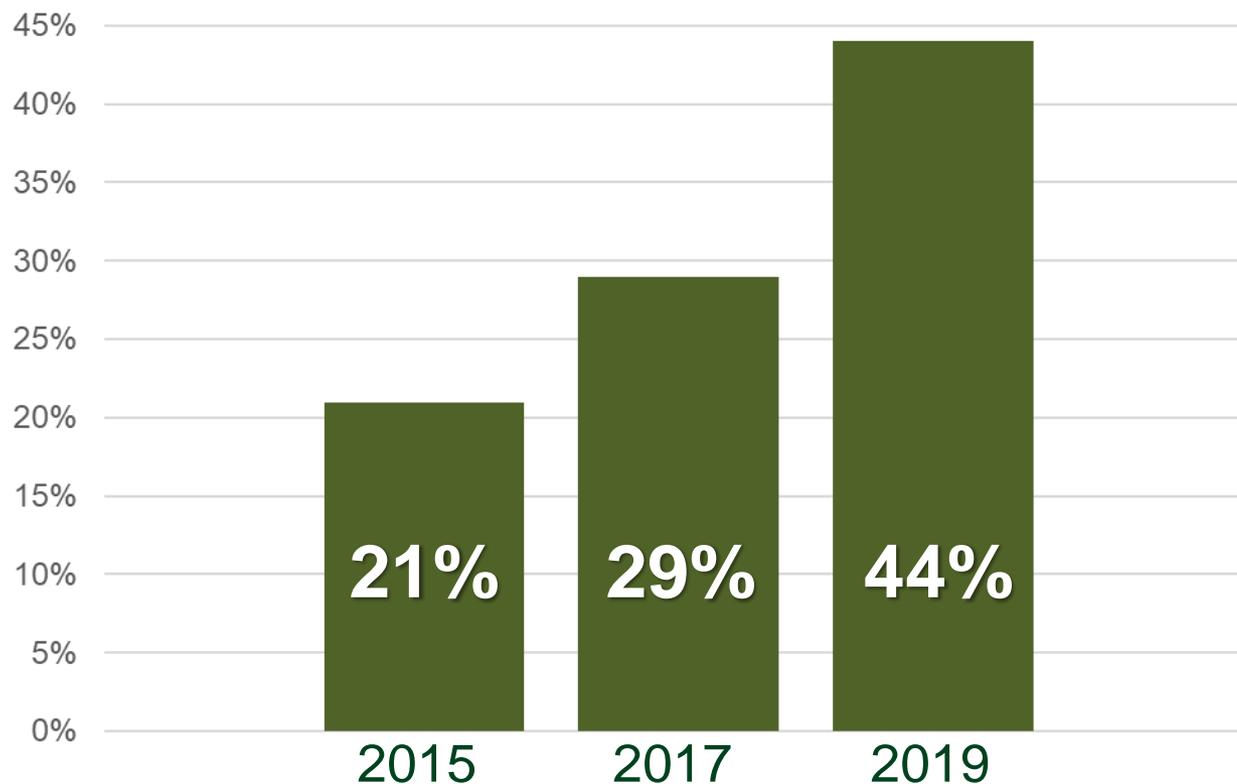


Join the Zero Movement

Zero Residential Units

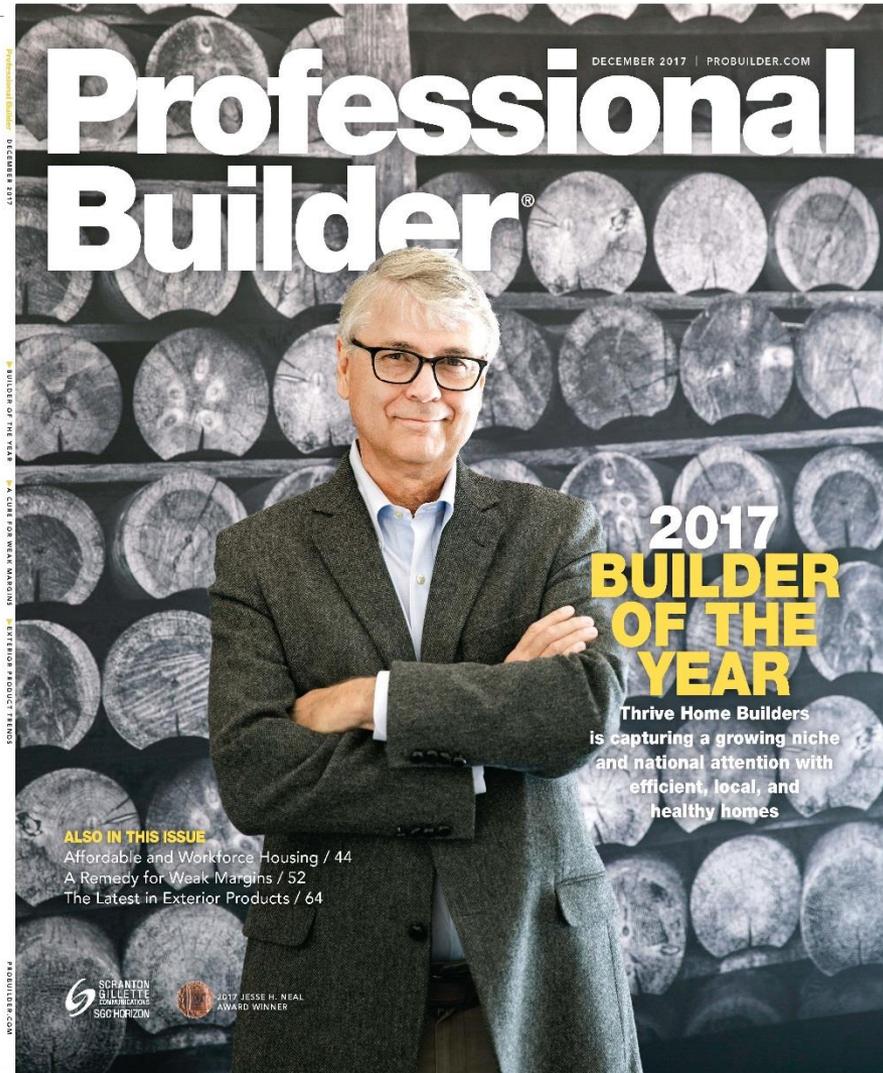


Source: "To Zero and Beyond, Zero Energy Residential Buildings Study, 2016 Inventory of residential projects on the path to zero in the U.S. and Canada, Net Zero Energy Coalition, June 2017, call with Shipa Sankaran, February 16, 2018



Built or Plan to Build a Net Zero, Near Net Zero, or Net Zero Ready Home

Source: Dodge Data & Analytics, October 2017





Meritage claims it can charge the same, on a per square foot basis, for its net-zero-ready homes than other builders charge for standard construction. The focus on efficiency has helped the company “future-proof” their business, in light of regulatory changes in California and elsewhere.

- **Visit ZERH Website:**
 - National Program Requirements
 - Take Tour of Zero
 - View Resources
 - View Webinars
- **Sign up as a ZERH Partner**
 - Builder
 - Verifier
 - Innovation Partner

Thank You



For More Information:

www.buildings.energy.gov/zero/

Email Contact:

zero@newportpartnersllc.com