

# Building America Solution Center Webinar

July 22, 2015

U.S. DEPARTMENT OF  
**ENERGY**

Energy Efficiency &  
Renewable Energy



Put New Tools and Content on the Building America Solution Center to Work for You!

**CHRISSI ANTONOPOULOS**

Pacific NW National Laboratory

2015 has been an exciting year for the Building America Solution Center! Along with continuous content additions, there are many new features we'd like to share with you:

- EPA Indoor airPLUS checklist manager
- A new sales tool
- Over 80 videos
- Existing homes expanded content and navigation

# WHAT IS THE BUILDING AMERICA SOLUTION CENTER?

- It is an online tool designed to provide building professionals with fast, free and reliable building science and efficiency knowledge.
- At the heart of the Building America Solution Center are the guides -- a compilation of content covering eight critical topics for more than 150 individual measures (and growing).
- Users can also use a browser to view galleries of content -- such as images, CAD files or case studies -- or filter the results by keyword.

## WHO USES THE BUILDING AMERICA SOLUTION CENTER?

- It is designed for anyone interested in accessing technical information about residential construction.
- Over 150,000 unique visitors per year and growing!
- Over 2,000 registered users including architects, builders, raters, code officials, consultants, contractors, editors, educators, engineers, and many others.

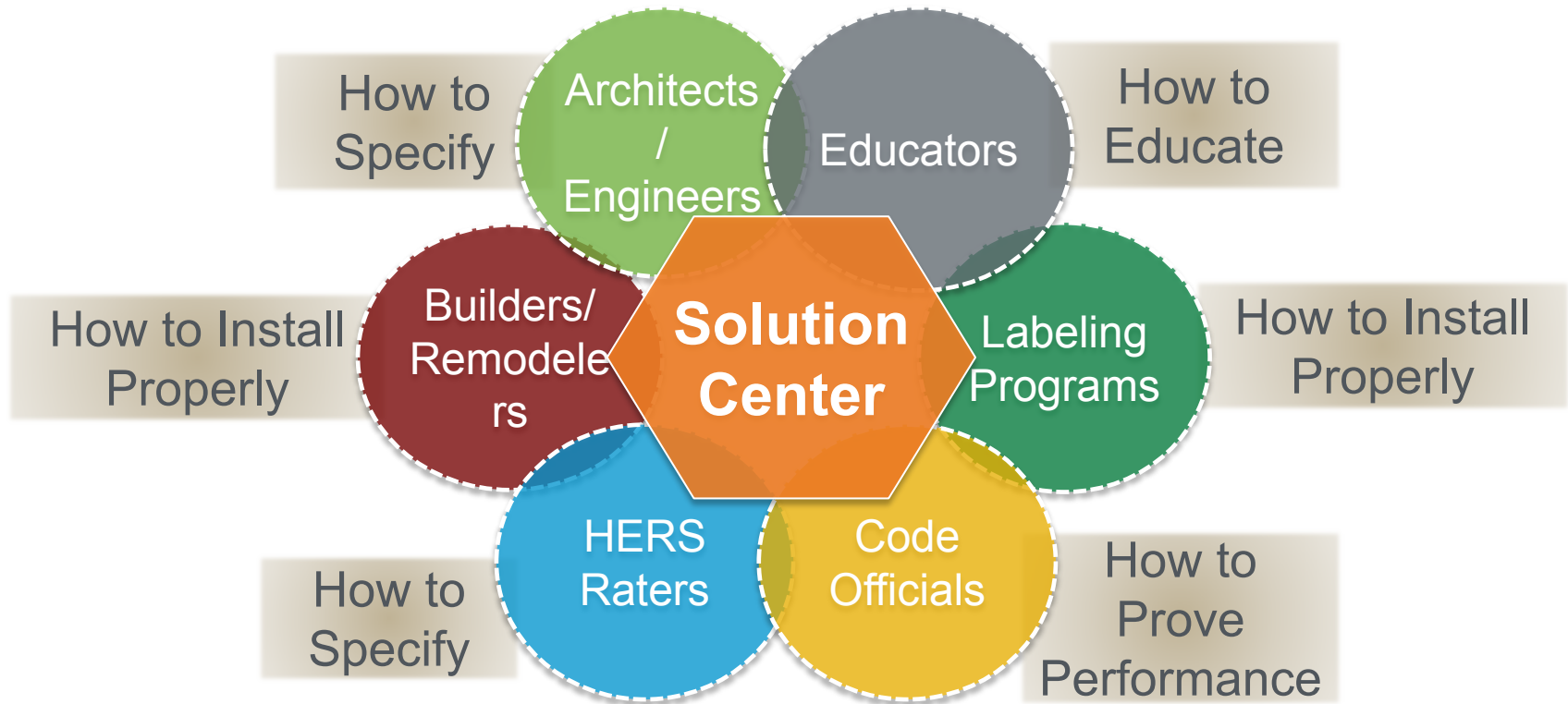
## WHY USE THE BUILDING AMERICA SOLUTION CENTER?

- Quickly access technical specifications supporting Zero Energy Ready Home, ENERGY STAR Certified Homes, Indoor airPLUS, and Water Sense programs.
- Access codes & standards, climate zone info, and installation guidance.

<https://basc.energy.gov>

# SNAPSHOT OF BUILDING AMERICA SOLUTION CENTER CONTENT:

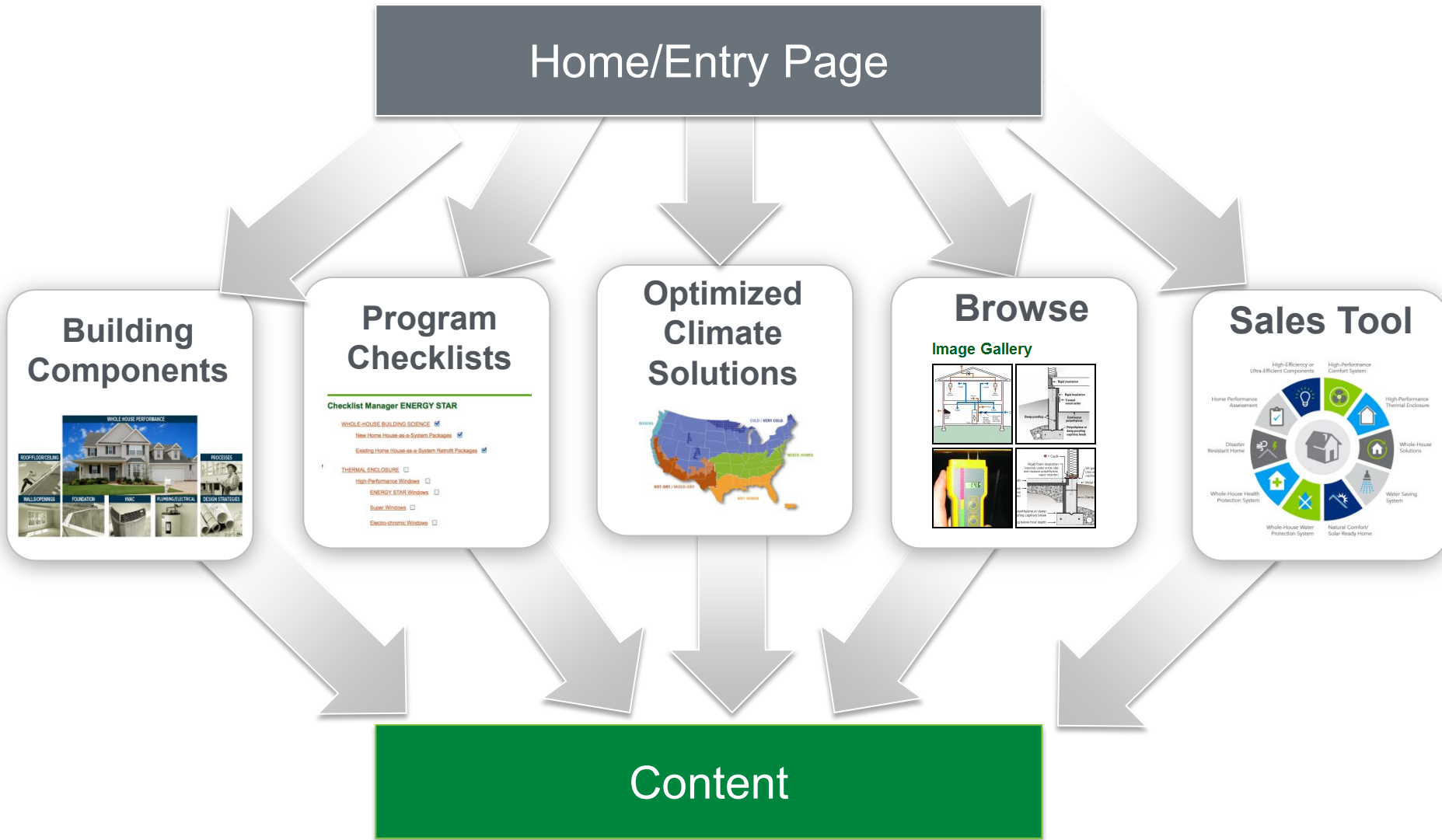
- 175+ full guides providing cutting edge information about energy efficient building science applications
- 1,300+ images
- 115+ CAD drawings
- 175+ proven performance case studies
- 375+ peer-reviewed references & resources



The Solution Center supports many programs:



# Access content through a variety of tools



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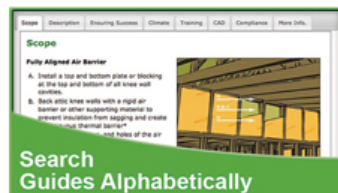
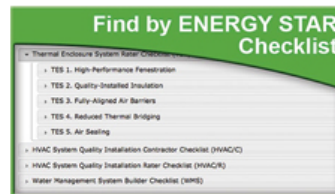
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The Building America Solution Center provides access to expert information on hundreds of high-performance construction topics, including air sealing and insulation, HVAC components, windows, indoor air quality, and much more. Click on the links below to explore the Solution Center.



As a community driven tool, we welcome your [comments](#) on how to continuously improve the Solution Center. If you are interested in submitting content, please become a [registered user](#) and see the [criteria for submissions](#).

**THANK YOU!** Li Ling Young for providing substantive comments on window flashing leading to improvements to Solution Center content.

### RECENTLY ADDED/UPDATED GUIDES

[Ventilation Air Inlet Locations](#)

Last Updated: January 6, 2015

[Reduce Pest Intrusion](#)

Last Updated: January 5, 2015

[Air Sealing Attached Garage](#)

Last Updated: December 29, 2014

[More Guides](#) ▶

### RECENTLY ADDED CONTENT

[Right – Apply sealant around penetrations through foundation walls and along foundation wall seams](#)

Image Posted: January, 2015

[Evaluation of Ventilation Strategies in New Construction Multifamily Buildings](#)

Reference Posted: January, 2015

[Code Notes: Whole-House Mechanical Ventilation](#)

Reference Posted: January, 2015



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## EPA Indoor airPLUS



The U.S. Environmental Protection Agency (EPA) Indoor airPLUS checklist measures included in the EPA Indoor airPLUS program requirements, in the same order and numbering as those in the EPA Indoor airPLUS V associated with the DOE Zero Energy Ready Home program are displayed in the same order and numbering as those in the EPA Indoor airPLUS V requirements. For additional DOE Zero Energy Ready Home requirements see EPA's [Construction Specifications](#) document. For the Scope tabs in the guides. For additional DOE Zero Energy Ready Home requirements see the [DOE Zero Energy Ready Home Website](#).

▶ ENERGY STAR for Homes Baseline

▶ Moisture Control

▼ Radon

[2.1 Approved radon-resistant features installed in Radon Zone 1 homes](#)

▶ Pests

▶ HVAC Systems

▶ Combustion Pollutants

▶ Materials

▶ Final

Find guidance supporting Indoor airPLUS

## Vertical Radon Ventilation Pipe

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Scope Description Success Climate Training CAD Compliance More Sales

### Scope

Install a vertical ventilation pipe as a passive radon vent system to prevent the accumulation of radon and soil gasses in the home.

The U.S. Environmental Protection Agency recommends, but does not require, that all homes built with radon-resistant features in EPA Radon Zone 1 pre-emptively include a radon vent fan. EPA also recommends, but does not require, radon-resistant features for homes built in EPA Radon Zones 2 and 3. EPA further recommends that all homes built in EPA Radon Zones 2 and 3 with radon-resistant features be tested for radon prior to occupancy. A radon vent fan should be installed in the ventilation pipe when the test result indicates radon concentrations of  $\geq 4$  picocuries per liter inside the home (the EPA action level).



The vertical ventilation pipe runs from the foundation to the roof and serves as a passive sub-slab depressurization system that effectively reduces radon levels in the home. Follow these general steps to construct a passive radon ventilation system.

1. Determine vent pipe size and location.
2. Lay a perforated pipe or a collection mat around the foundation perimeter and insert a vertical "T."
3. Place the concrete slab or polyethylene vapor barrier or both around the vertical "T" and seal it.
4. Install the vertical pipe.
5. Run the pipe through the roof.

### DOE Zero Energy Ready Home Notes

The DOE [Zero Energy Ready Home](#) program requires that builders comply with EPA Indoor airPLUS. The [Indoor airPLUS checklist](#) (Item 2.1) requires that builders construct homes in [EPA Radon Zone 1](#) with radon-resistant features to conform to ASTM E1465; or IRC, Appendix F; or NFPA 5000, Chapter 49. Consult EPA's ["Building Radon Out"](#) for general guidance on installing radon-resistant features.

For additional information see the Compliance tab.



## Ducts Buried in Attic Insulation


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Scope Description Success Climate Training CAD Compliance More Sales

**BUILDING SCIENCE-TO-SALES TRANSLATOR**

**Vented Attics with Buried HVAC Ducts = Comfort Delivery System  
Buried in Insulation**



**TECHNICAL DESCRIPTION:**

Heating and cooling ducts are often located in vented attics where humidity and temperature extremes can encourage unwanted heat loss or heat gain to the conditioned air traveling through the ducts. One way to minimize these energy losses is to bury the ducts in the insulation laying on the attic floor, which is typically blown fiberglass or blown cellulose. When this technique is used, the ducts are thoroughly air sealed and insulated. In humid climates, additional care is taken by covering the insulated ducts with spray foam before covering them with the blown insulation to ensure that no cold air will escape from the ducts and that the exterior surface of the ducts will be warm because condensation could form on any cold surfaces in a hot, humid attic. With this set up, the furnace/air conditioner and air handler are typically located inside the home in a utility room or closet.

---

Alternate Terms

- Energy Saving Buried Comfort Delivery System

## Each Guide contains:

- Scope of work
- Description (how to install)
- Ensuring Success (safety, planning)
- Climate specific information
- Training (images, presentations, videos)
- CAD drawings
- Compliance information
- External resources and case studies
- Sales Tool

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## Sales Tool

Housing industry leaders today are successfully building and selling high-performance new and existing homes. However, many stakeholders are frustrated that the transaction process fails to recognize the value associated with lower cost of ownership, greater comfort, improved health, ensured combustion safety, and more durability. Communicating the value of high-performance homes begins by using terminology for measures that consistently convey the improved consumer experience, rather than the engineering function. This is an important and powerful first step which is fully under our control, particularly if we facilitate a collective impact process engaging all stakeholders to develop and embrace this new language of 'value'.

The goal of this Building Science-to-Sales Translator is to provide a new glossary of sales themes that can be used across the industry to consistently reinforce the value of high-performance homes. Each term includes a list of 'alternate terms' that represent one of six value propositions: Engineered Comfort, Healthful Environment, Ultra Efficient, Advanced Technology, Quality Built, and Enhanced Durability. Use the tool below to explore sales themes that relate to each primary area of a high-performance home.



The Sales Tool provides a new glossary of sales themes that can be used across the industry to consistently reinforce the value of high-performance homes.

Browse by 10 different building topics.

- **Translated Term:** provides a translation from the technical building science term to a value-based theme.
- **Technical Description:** A brief overview of the technical specifications of the measure.
- **Alternate Terms:** represent one of six value propositions: Engineered Comfort, Healthful Environment, Ultra Efficient, Advanced Technology, Quality Built, and Enhanced Durability.
- **Sales Message:** A detailed statement capturing the value of high performance building science measures.
- **Access the Sales Tab** from any BASC guide.

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BUILDING SCIENCE-TO-SALES TRANSLATOR

## HVAC Ducts In Conditioned Space = Interior Comfort Delivery System



### TECHNICAL DESCRIPTION:

Heating and cooling equipment and ducts are often located in uninsulated attics and crawlspaces where humidity and temperature extremes can prematurely age the equipment and encourage unwanted heat loss or heat gain to the conditioned air traveling through the ducts. If the ducts are not tightly air sealed, conditioned air can escape from the ducts, resulting in energy loss and potential moisture damage, or unfiltered attic or crawlspace air can be drawn into the ducts and distributed throughout the home.

Interior comfort delivery systems with the air handler and ducts located inside the conditioned environment of the home minimize the effects of duct leakage. Any conditioned air that does leak from the ducts leaks into the conditioned areas of the home. This saves money by ensuring conditioned air produced by the comfort equipment is not wasted in places like the attic or crawlspace.

### Alternate Terms

- Advanced Interior Comfort Delivery System
- Energy Saving Interior Comfort Delivery System

Interior Comfort  
Delivery System  
Sales Message



Interior comfort delivery systems are installed inside the conditioned space rather than in unconditioned spaces. What this means to you is full comfort with much less wasted energy. Wouldn't you rather have your heating and cooling delivered from inside your home rather than effectively outdoors?

Each term has a translation, alternate terms, technical description and consumer sales message.



## 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


Users can customize the Sales Tool (coming this summer):

- Add your logo.
- Create lists of high performance measures based on your building techniques.
- Measures are described using the sales message.
- Save and print out worksheets to share with consumers.

Scope Description Success Climate Training CAD Compliance More **Sales**

**BUILDING SCIENCE-TO-SALES TRANSLATOR**

**High-R Floor Insulation = High-Efficiency or Ultra-Efficient Floor Insulation**



**TECHNICAL DESCRIPTION:**

A poorly insulated floor can cause heat loss and uncomfortably cold floors. High-efficiency and ultra-efficient floor insulation combats heat loss through the floor by using generous amounts of properly installed insulation that stays in place in full contact with the underside of the subfloor long after the home is built. High-efficiency insulation meets or exceeds the insulation levels required by the 2012 International Energy Conservation Code (IECC); ultra-efficient insulation provides 50% more insulation than the IECC 2009 standard.

**Alternate Terms**

- High-Efficiency or Ultra-Efficient Floor Insulation
- Enhanced Comfort Floor Insulation
- Enhanced Quiet Floor Insulation
- Advanced Floor Insulation

**High-Efficiency or Ultra-Efficient Floor Insulation Sales Message**

High-efficiency floor insulation helps provide added thermal protection. What this means to you is less wasted energy along with enhanced comfort and quiet. Knowing there is one opportunity to optimize performance during construction, wouldn't you agree it's a great opportunity to meet or exceed future codes?

Find Sales Themes throughout BASC on the “Sales” tab without navigating through the Sales Tool

- BASC now has a library of over 80 videos, ranging from air sealing and HVAC to window and indoor air quality topics.
- Videos are imbedded into guide Training Tabs, but can also be searched and filtered separately, just like our photo gallery.
- Filter videos by keyword to find specific topics.

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## Videos



**Insulation Installation (RESNET Grade 1) - Part 1**

**Courtesy Of:** [CertainTeed](#)

*Video describing how to properly install the OPTIMA insulation system.*

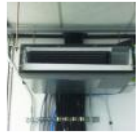


**Light Tubes**

**Publication Date:** July, 2015

**Courtesy Of:** [SolarLight](#)

*Video describing how to install light tubes.*



**Mini-Split (Ductless) Heat Pumps (1)**

**Publication Date:** July, 2015

**Courtesy Of:** [Risinger Homes](#)

*Video describing mini split ductless heat pumps.*

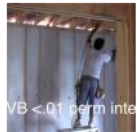


**Mini-Split (Ductless) Heat Pumps (2)**

**Publication Date:** July, 2015

**Courtesy Of:** [Zero Energy Homes](#)

*Video describing mini split ductless heat pumps.*



**No Class I Vapor Retarders on Interior Side of Exterior Walls in Warm-Humid Climates**

**Publication Date:** July, 2015

**Courtesy Of:** [Train2Build](#)

*Video describing vapor retarders used in Warm-Humid climates.*



**No Excessive Coiled or Looped Flex Ducts**

**Publication Date:** July, 2015

**Courtesy Of:** [Train2Build](#)

*Video describing proper flex duct installation.*

### FILTER BY BASIC KEYWORDS:

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## 2012 IECC Code Level Insulation – DOE Zero Energy Ready Home Requirements

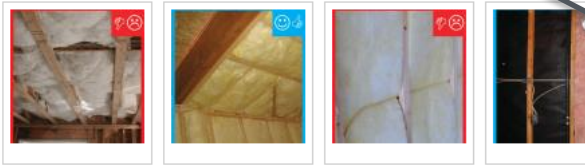
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### Training

Right and Wrong Images




Presentations



**Presentation:** [Zero Energy Ready Home Training](#) (19 MB)  
**Author(s):** Rashkin  
**Organization(s):** DOE

Videos



[2012 IECC Code Level Insulation – DOE Zero Energy Ready Home Requirements](#)  
**Publication Date:** July, 2015  
**Courtesy Of:** [Risinger Homes](#)  
*Video describing insulation and air sealing strategies to meet 2012 IECC code levels.*

Last Updated: 05/09/2014

Find videos in the training tab of BASC guides

- COMING SOON!
- The Building Components tool is being re-designed to streamline the integration of existing homes guides.
- This tool will focus on making existing homes guidance accessible for users.
- Guides applicable to both new and existing homes will have a new tab with existing homes information. Guides specific to existing homes will follow the traditional BASC outline.

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## Building Components

Click on the component images for a list of corresponding component subcategories. Select one subcategory to display a list of related Guides.



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- Attics
- Ceilings Floors
- Air Sealing/Insulation
- Water Management

FOUNDATIONS & FLOORS

HVAC

APPLIANCES, & LIGHTING

ENERGIZING

RENEWABLES

WATER HEATERS, APPLIANCES, & LIGHTING

WALL OPENINGS

ROOFS, ATTICS & CEILING

CONSTRUCTION PROCESSES

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## Building Components

### Walls/Opening – Air Sealing/Insulation

The guides on this page present information about wall structures, such as advanced framing, double walls, ICFs and SIPs. Guides are presented in alphabetical order. Use the filters to the right of the page to further focus your search based on construction type, keywords or trades.

### Solution Center Guides

#### [Attic Knee Walls](#)

This guide describes how to insulate and air seal attic knee walls and floor joist cavities under knee walls.

#### [Capillary Break Beneath Slab - Polyethylene Sheeting or Rigid Insulation Over Aggregate](#)

Guide describing how to install a capillary break under a slab foundation using either polyethylene sheeting or rigid insulation installed over aggregate.

#### [Continuous Rigid Insulation Sheathing/Siding](#)

This guide describes installation procedures for continuous rigid insulation to help provide thermal protection, reduce thermal bridging and provide a moisture barrier.

#### [Double Wall Framing](#)

Guide describing construction and insulation techniques for double wall framing.

#### [Double Walls](#)

This guide describes air barrier and insulation installation, along with air sealing for double walls - half or full walls included in a home design as an architectural feature that provides a more dimensional appearance.

#### [Ducts in Dropped Ceilings](#)

Guide describing method for installing ducts in a duct chase above a dropped ceiling.

#### [Exterior Surface of Below-Grade Walls](#)

### MY FIELD KITS

#### [North Portland Residential](#)

13 items

#### [General Air Sealing Guidance](#)

4 items

#### [San Francisco Challenge Home Project #1](#)

12 items

 [New Field Kit](#)

### CURRENT SELECTION

157 Guides

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Based on selections, land on a list of relevant Guides.

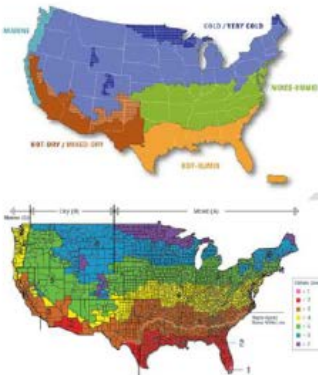
Filter by construction type and keyword.

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**Building America Optimized Solutions for New Homes:**  
**Hot-Dry Climate**

**CLIMATE ZONE MAPS**



The U.S. Department of Energy's (DOE) Building America program has been a source of innovations in residential building energy performance, durability, and affordability for nearly 20 years. This world-class research program partners with many of the top U.S. home builders, contractors, and manufacturers to bring cutting-edge solutions and resources to market.


The most recent goal of the Building America program has been to demonstrate how cost-effective strategies can reduce home energy use by more than 30% in new homes, in all climate regions, by 2015. As part of the strategy to prove that this level of performance is achievable in the market, DOE created a labeling program called the DOE Zero Energy Ready Home (ZERH) program.

Working together, Building America and the ZERH programs have created this series of optimized solutions to demonstrate how builders have achieved these high savings goals. These optimized solutions provide guidance to other builders for cost effectively meeting the 30% energy savings goal in their climate zones.

Building America's five major climate regions include: cold/very-cold, mixed-humid, hot-humid, hot-dry/mixed-dry and marine. These climate regions are outlined in Figure 1, along with a map of the IECC climate regions for comparison. This document outlines the Building America recommendations for achieving 30% in the hot-dry climate region.

The hot-dry climate performance package detailed in Table 1 uses common building practices to meet the performance criteria of 30% energy savings. Due to the tradeoff decisions that are made when building a home, there are hundreds of ways to meet the 30% performance criteria. The table lists common recommendations. To capture as many alternatives as possible, Table 1 includes an "Options" column on the far right, which provides ways to meet the various criteria listed.

Figure 1. Map of Building America climate regions (top) for program reporting and IECC climate zones (bottom) as a reference for compliance information



- Building America and the Zero Energy Ready Home Program created recommended measure packages used by builders to meet or exceed the 2009 IECC by 30% in all climate zones.
- This content is now a standalone tool in the Solution Center.
- Each climate zone page includes direct access to proven performance case studies.
- PDF documents are also available.

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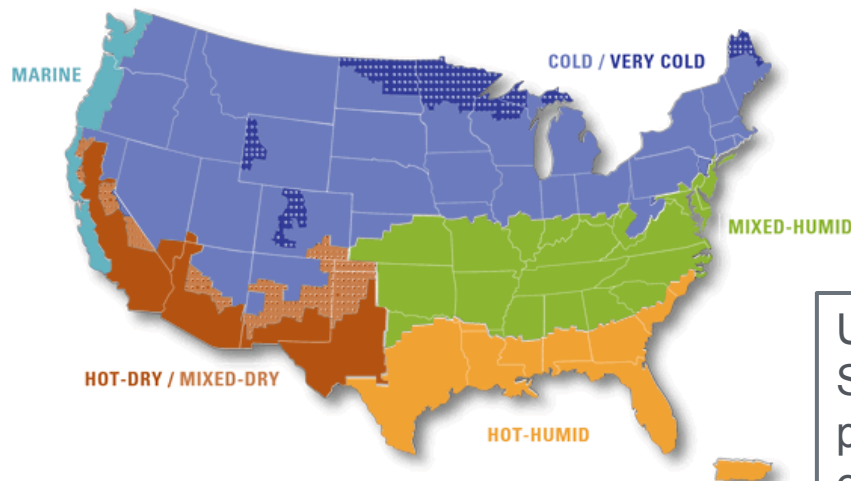
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### Optimized Climate Solutions

The Building America Program, funded by the Department of Energy (DOE), has worked for the last five years to reach the next level of cost effective energy performance in homes (approximately 30% above the [B10 Benchmark](#) – roughly consistent with the 2009 International Energy Conservation Code). To prove to industry that this level of performance is achievable and market viable, DOE created a labeling program called the [DOE Zero Energy Ready Home \(ZERH\)](#). The climate-specific guidance in this section of the Building America Solution Center provides detailed information on optimized solutions that meet or exceed the ZERH program requirements, cost effectively.

Use the interactive map below to find climate-specific guidance on Building America's Optimized Solutions for New Homes. For more information about climate designations, see the Building America [Guide to Determining Climate Regions by County](#).



#### MY FIELD KITS

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21 items

[New Construction Specs](#)

6 items

[Portland Oregon Renovation](#)

4 items

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2 items

 [New Field Kit](#)

Building America's Optimized Solutions for New Homes can help you meet or exceed the requirements of the [Zero Energy Ready Home \(ZERH\)](#) program.



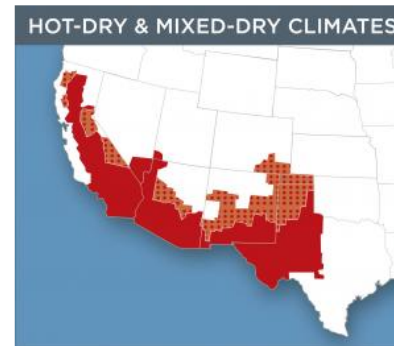
Use the new Optimized Climate Solutions tool to access building packages designed to achieve 30% energy savings better than the 2009 IECC, by climate zone

## Hot-Dry/Mixed-Dry

This Building America Optimized Solution describes a set of building practices necessary to achieve the next step in energy performance for new homes (approximately 30% energy savings above the [B10 Benchmark](#) - roughly consistent with the 2009 International Energy Conservation Code). This package of measures meets and exceeds DOE's [Zero Energy Ready Home \(ZERH\)](#) program requirements and was selected for its performance in the following areas:

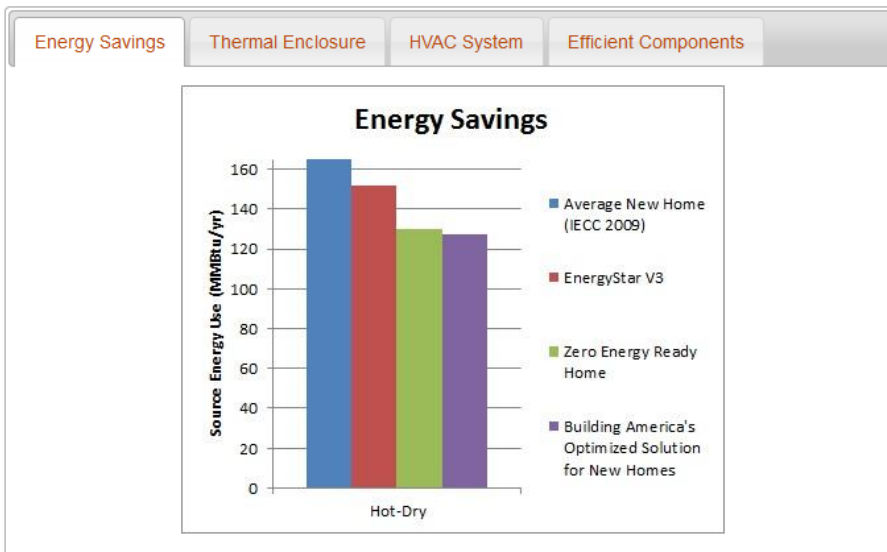
- Energy Savings
- Affordability
- Buildability
- Durability
- Healthy Indoor Environment

The high performance builders profiled in the [case studies found below](#) the interactive box show just a few examples of the hundreds of ways a builder can meet the premium levels of energy savings Building America strives for, while qualifying for the ZERH. Print the [Optimized Solution for the Hot-Dry/Mixed-Dry Climate](#).



For each climate zone, find:

- Energy savings data
- Guidance for thermal enclosure, HVAC and efficient components
- Detailed case studies





- Register to customize content
- Provide feedback on content
- Submit content

## User account

Create new account

Log in

Request new password

### User information

**Username \***

Spaces are allowed; punctuation is not allowed except for periods, hyphens, apostrophes, and underscores.

**E-mail Address \***

A valid e-mail address. All e-mails from the system will be sent to this address. The e-mail address is not made public.

### Work Experience

**Profession \***

**Construction Type \***

  
New Homes  
Existing Homes

### Location

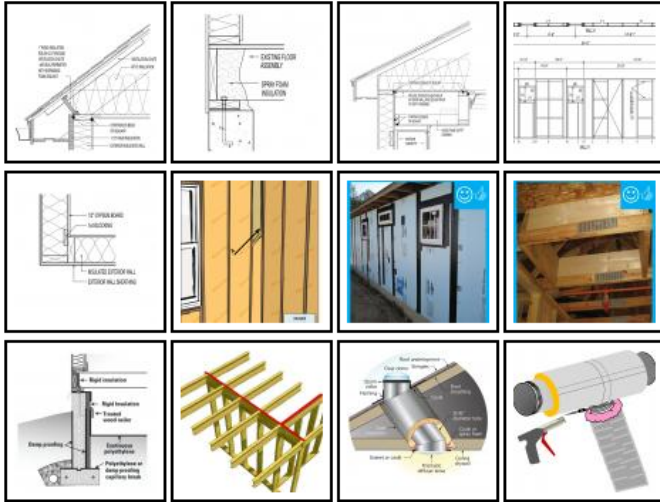
**State \***

  
Alaska  
Arizona  
Arkansas







**Climate Zone \***

  
Zone 1  
Zone 2  
Zone 3

## Zero Energy Ready Home Project #1



### Guides

-  [Cantilevered Floor](#)
-  [Ceilings](#)
-  [Minimum Wall Studs](#)
-  [Heavy Membranes at Eaves in Cold Climates](#)
-  [Intermittent Supply/Exhaust Fan Ratings](#)
-  [70 Amp Dual-Pole Circuit Breaker for PV Systems](#)

### MY FIELD KITS

#### [Zero Energy Ready Home Project #1](#)

21 items

#### [New Construction Specs](#)

6 items

#### [Portland Oregon Renovation](#)

4 items

#### [Indoor airPLUS](#)

2 items



New Field Kit

Use the My Field Kits tool to customize your Solution Center content by creating folders for:

- Guides
- Images
- CAD Files
- **Videos**
- **Sales Materials**

# Access Media Directly from Field Kits

Help

FIND YOUR TOPIC BY:

Building Components

Guides A-Z

ENERGY STAR Certified Homes

Zero Energy Ready Home

FIND RESOURCES:

References and Resources

CAD Files

Image Gallery

Case Studies

Optimized Climate Solutions

FIND PUBLICATIONS:

Building Science Publications



Guides

[Cantilevered Floor](#)

[Ceilings](#)

[Minimum Wall](#)

[Heavy Membranes at Eaves in Cold Climates](#)

[Intermittent Supply/Exhaust Fan Ratings](#)

MY FIELD KITS

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21 items

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2 items

[New Field Kit](#)

1" RIGID INSULATION  
ROUGH CUT AROUND  
VENTILATION CHUTE  
- AIR SEAL PERIMETER  
WITH EXPANDING  
FOAM SEALANT

VENTILATION CHUTE

ATTIC INSULATION

CONTINUOUS BEAD  
OF SEALANT

1 1/2" RIGID INSULATION

EXTERIOR INSULATED WALL

1 inch rigid insulation as attic eave baffle cut around manufactured vent

◀ 1 of 15 ▶

ⓘ 📄 ⌵

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[Case Studies](#)

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### 70 Amp Dual-Pole Circuit Breaker for PV System

[Feedback](#)

Belongs to 1 Field Kit

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[Zero Energy Ready Home Project #1](#)

21 items

[New Construction Specs](#)

6 items

[Portland Oregon Renovation](#)

4 items

Add or remove this item in your Field Kits.

- Zero Energy Ready Home Project #1  
21 items
- New Construction Specs  
6 items
- Portland Oregon Renovation  
4 items
- Indoor airPLUS  
2 items

Scope Description Ensuring Success Climate Training CAD Compliance More Info.

#### Scope

Include a dedicated 70 amp dual-pole circuit breaker for a future solar photovoltaic (PV) system when building a Renewable Energy Ready Home (RERH). If possible, place the circuit breaker panel box near the future balance of system components for the PV. Space requirements and layout for solar photovoltaic system components should be taken into account early in the design process.

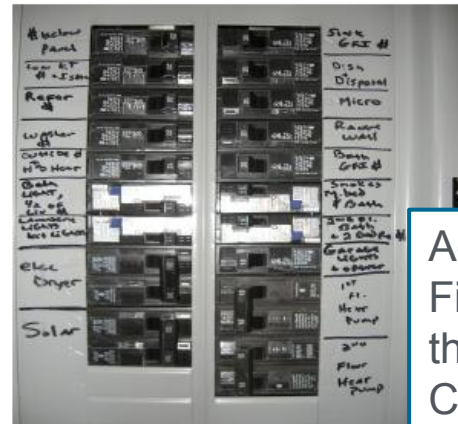
#### DOE Zero Energy Ready Home Notes

The U.S. Department of Energy (DOE) [Zero Energy Ready Home National Program Requirements](#) includes in Exhibit 1, Mandatory Requirements, Item 7 Renewable Ready, that all homes must meet the requirements in the Consolidated Renewable Energy Ready Home (RERH) Checklist.

The RERH Checklist requires builders to:

- Install a 70-amp dual pole circuit breaker in the electrical service panel for use by the PV system (label the service panel) (RERHPV Guide 3.4)

**Alternative:** Provide a labeled slot for a double-pole breaker in the electrical service.



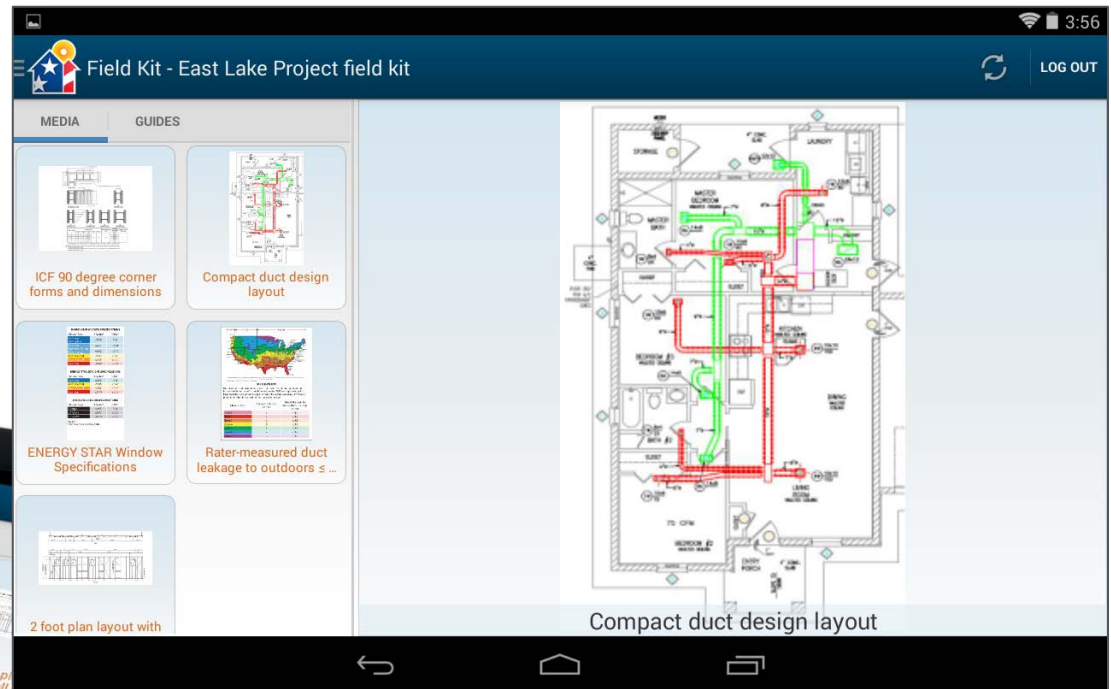
Add content and access Field Kits anywhere throughout the Solution Center

Last Updated: 08/04/2014



Access your Building America Field Kits remotely using the new “Solutions” mobile application for Android and iOS. Access the iOS app through the Apple store, and use the link below for the Android app.

- Access media
- Access guides
- Access Field Kits for specific construction projects



<https://basc.energy.gov/solutions>

Field kits can also be accessed from computers

# Coming Soon

- ENERGY STAR Version 3, Revision 8
- Redesigned Home Page
- Expanded Existing Home Content
- Sales Tool Customized Sales Materials
- Updated Building Science Publications
- Updated Mobile Apps
- WaterSense Checklist

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<http://basc.energy.gov>

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<http://www.buildingamerica.gov>