



Building America Solution Center

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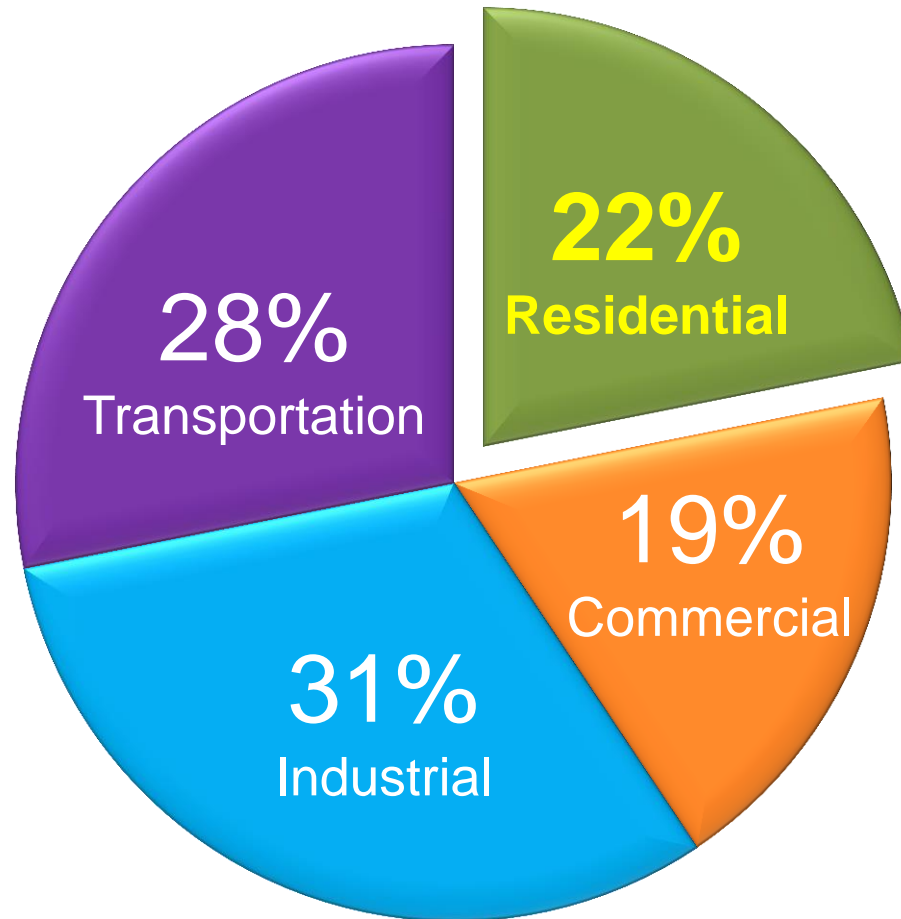
Pacific Northwest National Laboratory

- Business Case:
Why Building America
- Business Model:
Building America Strategy
- Business Tool:
Building America Solution Center
- Building America Solution Center Tour

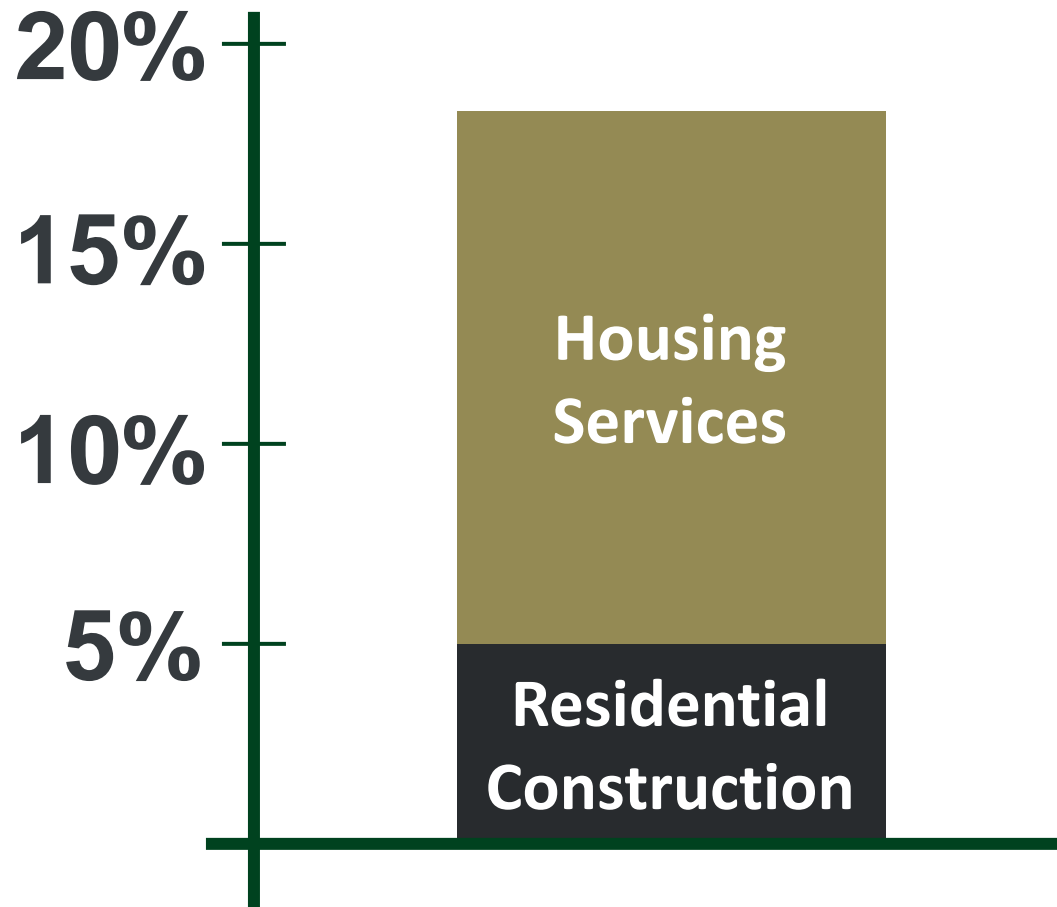
Business Case

Why Building America

Building America Business Case Residential Energy Use Significant



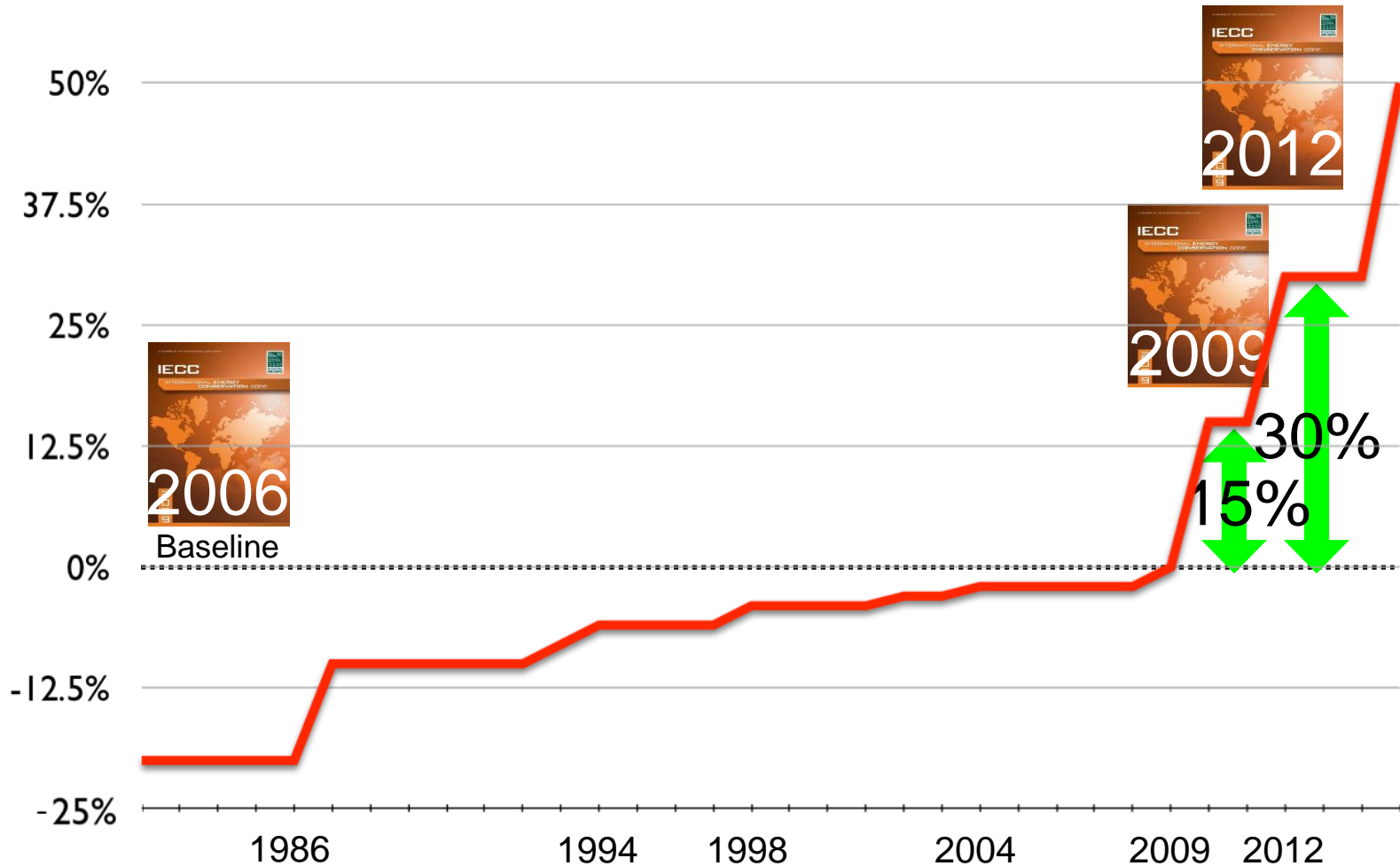
U.S. Energy Consumption



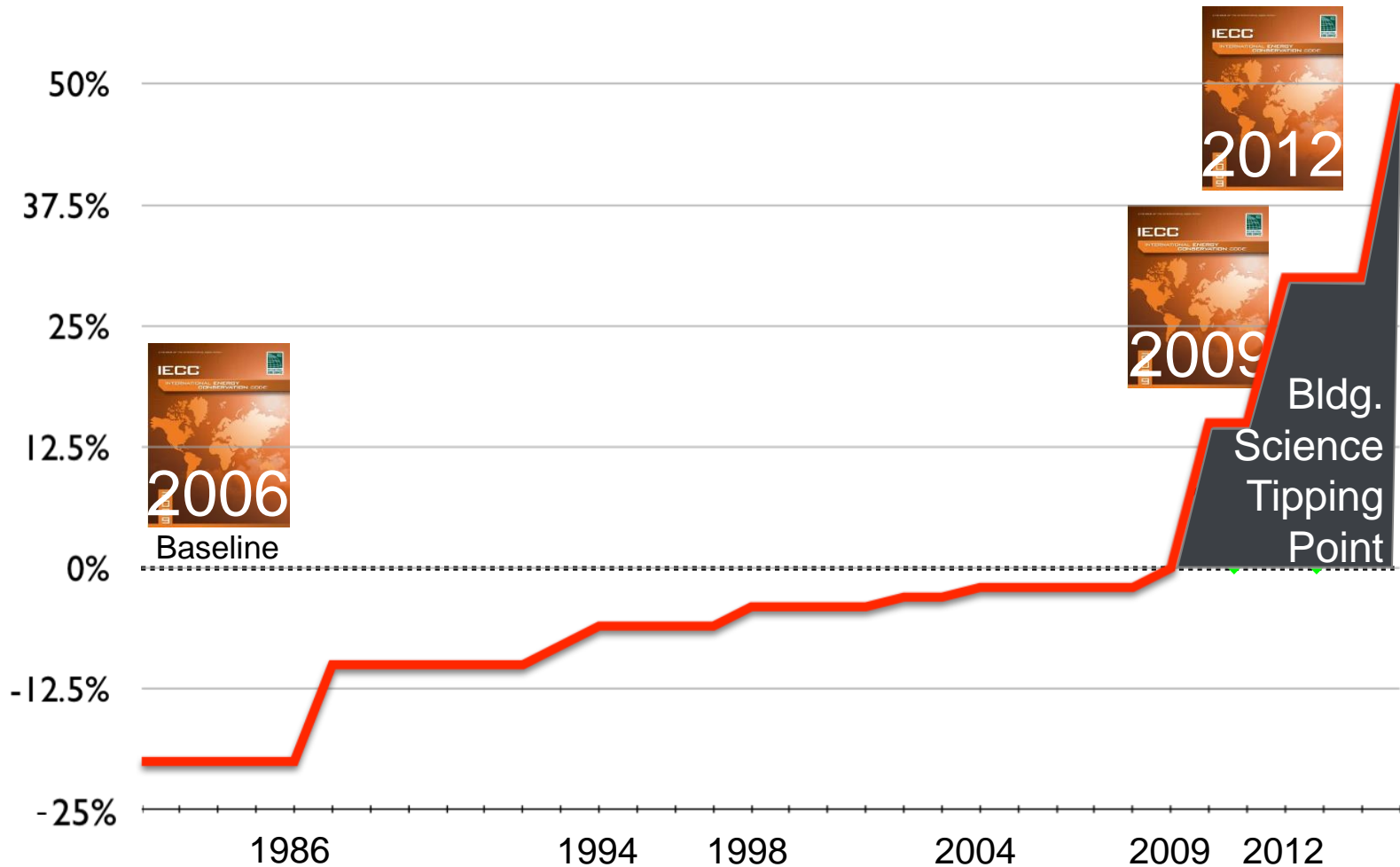
Housing Sector Percent of GNP

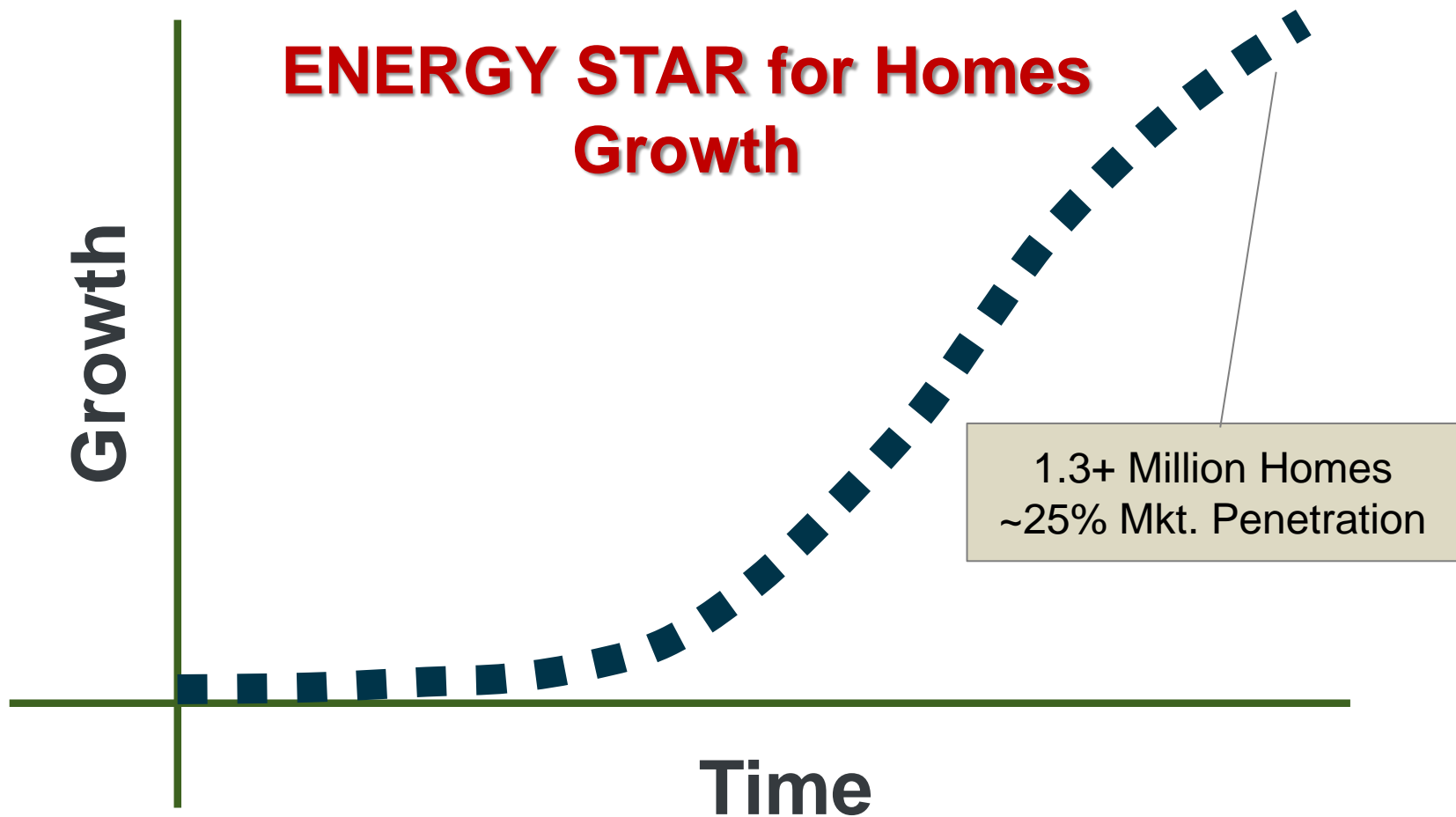
Source: NAHB data through Q1 2012

Building America Business Case Building Science Imperative



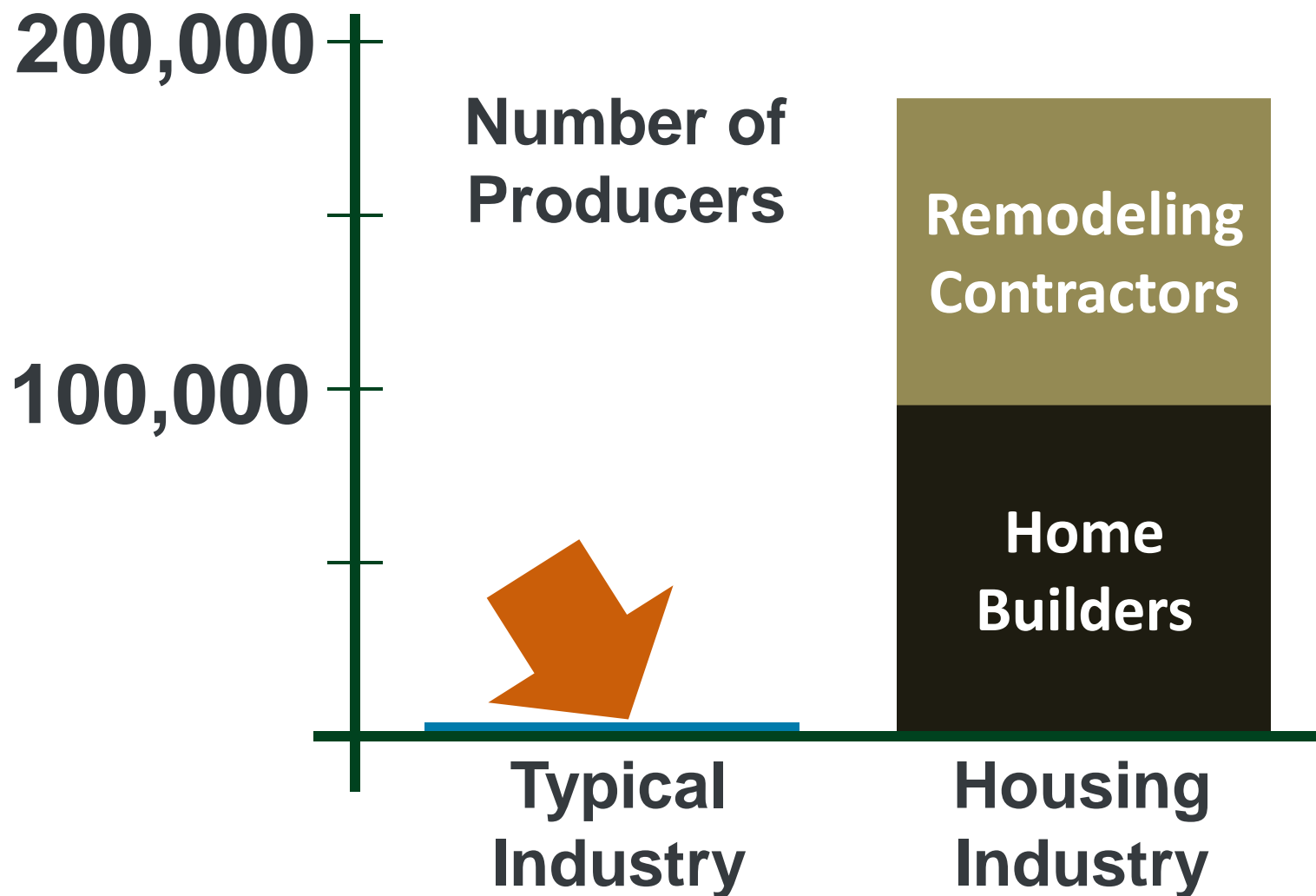
Building America Business Case Building Science Imperative



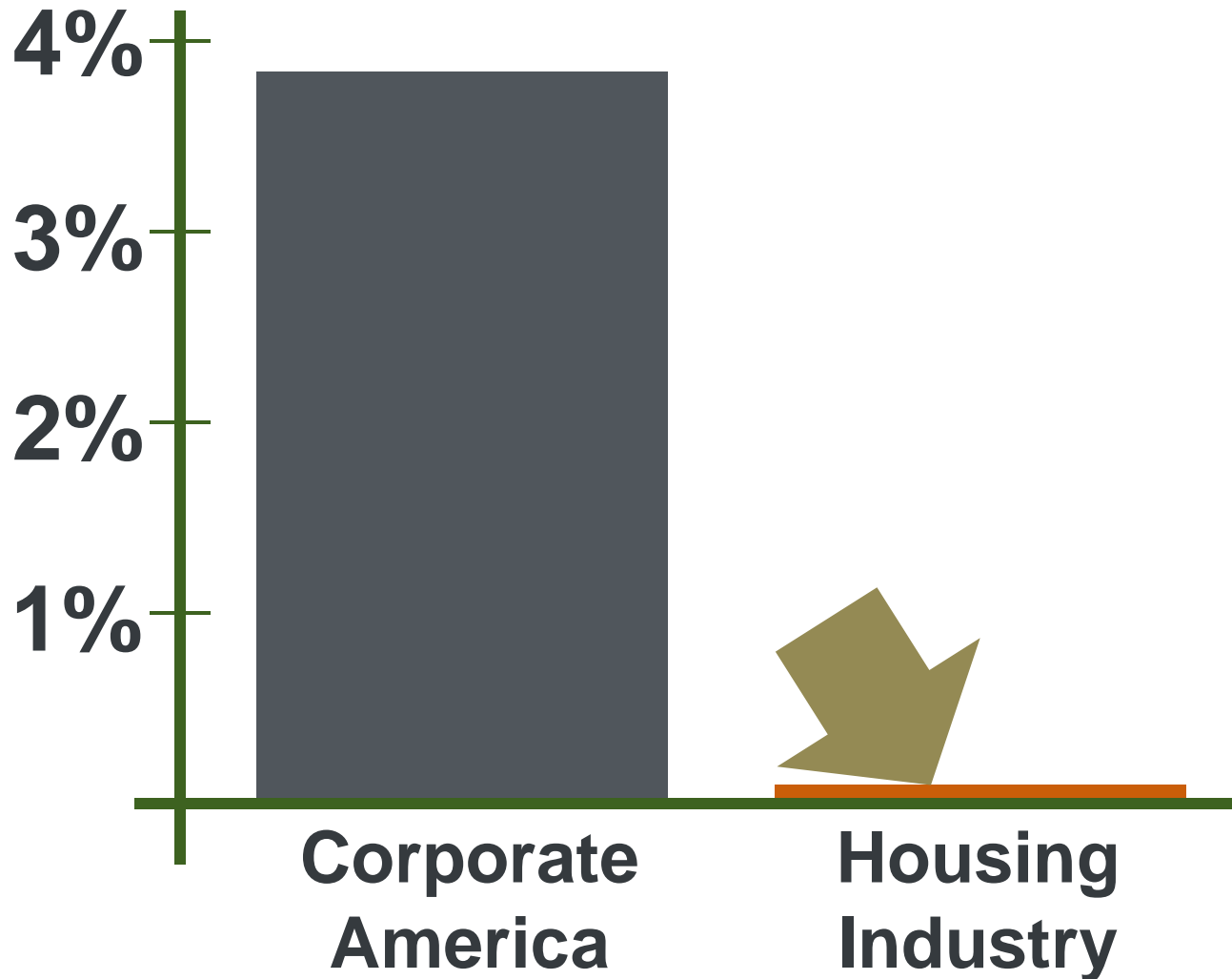


- Jobs
- Clean Air
- Energy Independence
- Stronger Communities
- Healthier Households

Building America Business Case Disaggregated Housing Industry



R&D Investment as a % of Revenue



Building America Fills Market Need for a
High-Performance Home
HUB of Innovation



Business Model

Building America Strategy

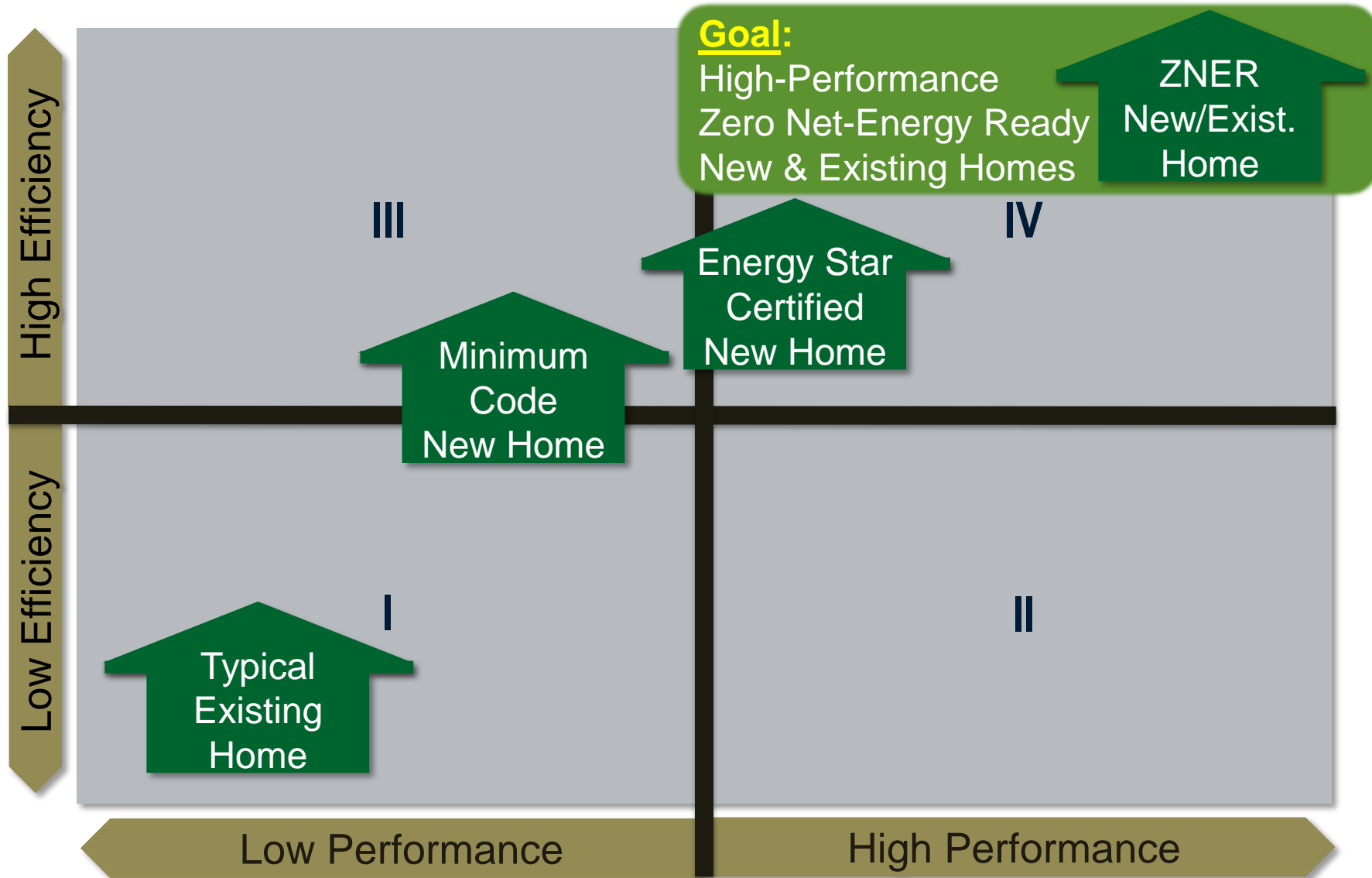
1. Efficiency

- Enclosure
- Low-Load HVAC
- Components

2. Performance

- Comfort
- Health
- Durability
- Renewable Readiness/Integration
- Water Conservation
- Disaster Resistance

Building America Goal

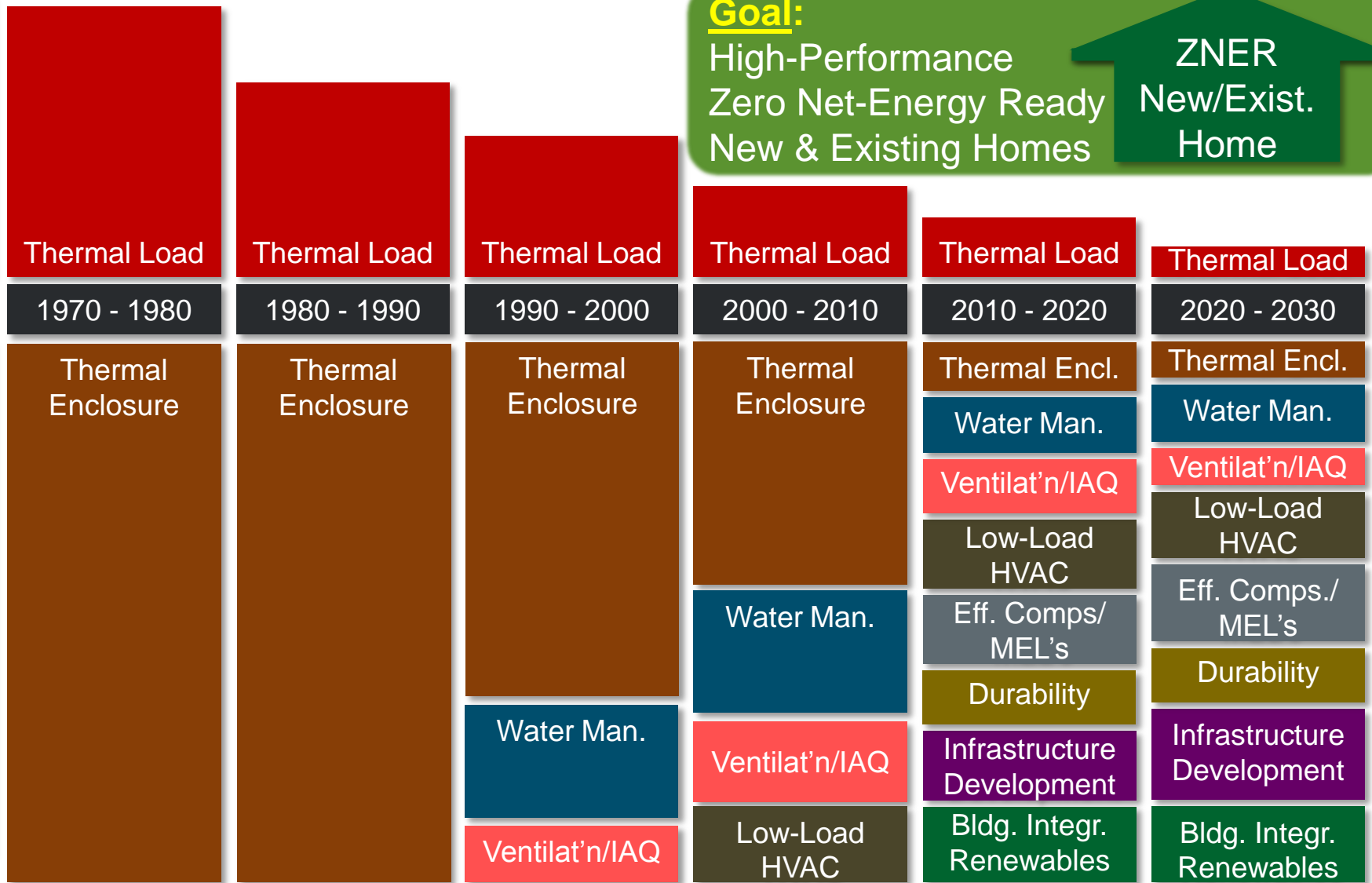


Building America Path

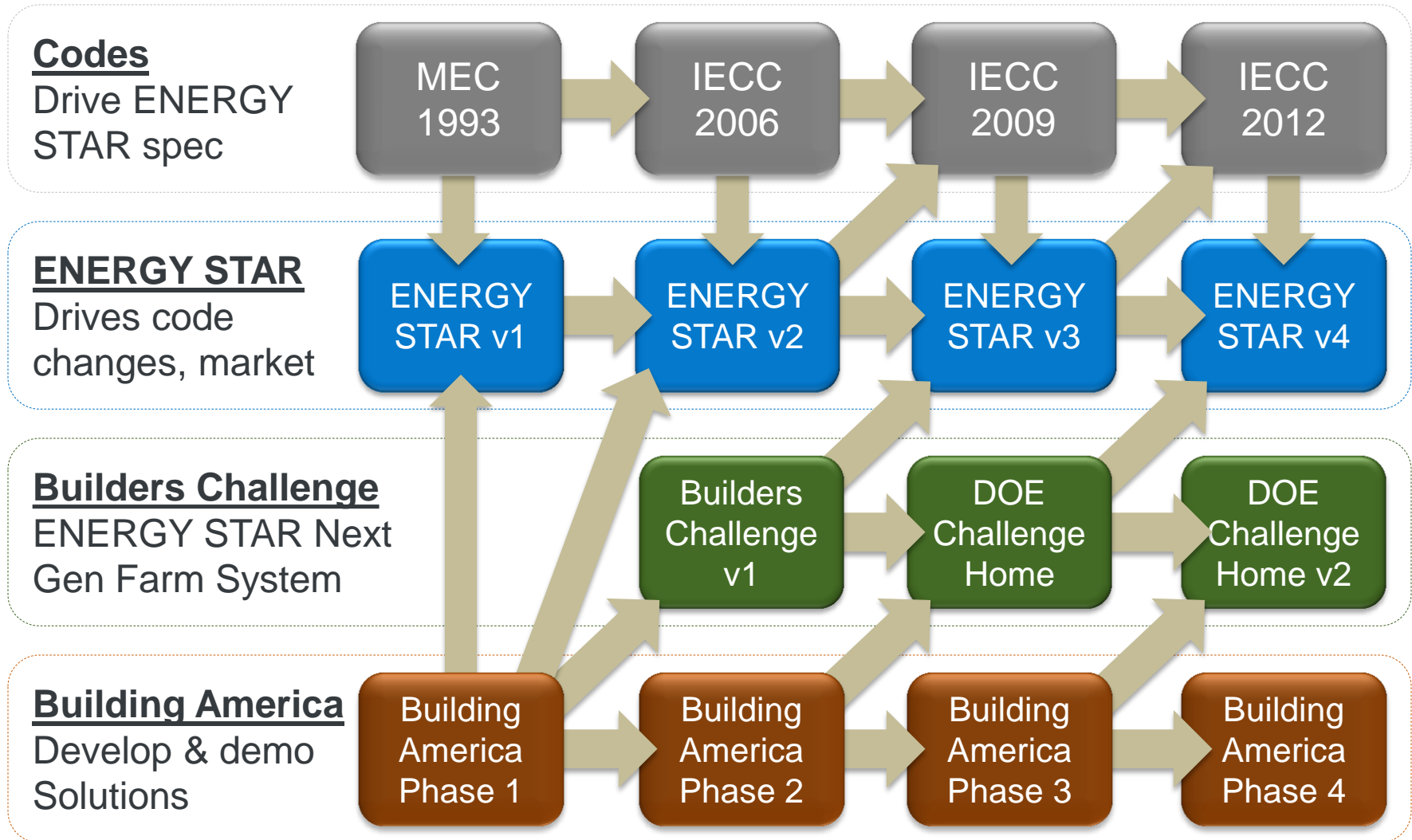
Thermal Load

Resulting Research Priorities

Goal:
High-Performance
Zero Net-Energy Ready
New & Existing Homes

Building America Process



Business Tool

Building America

Solution Center

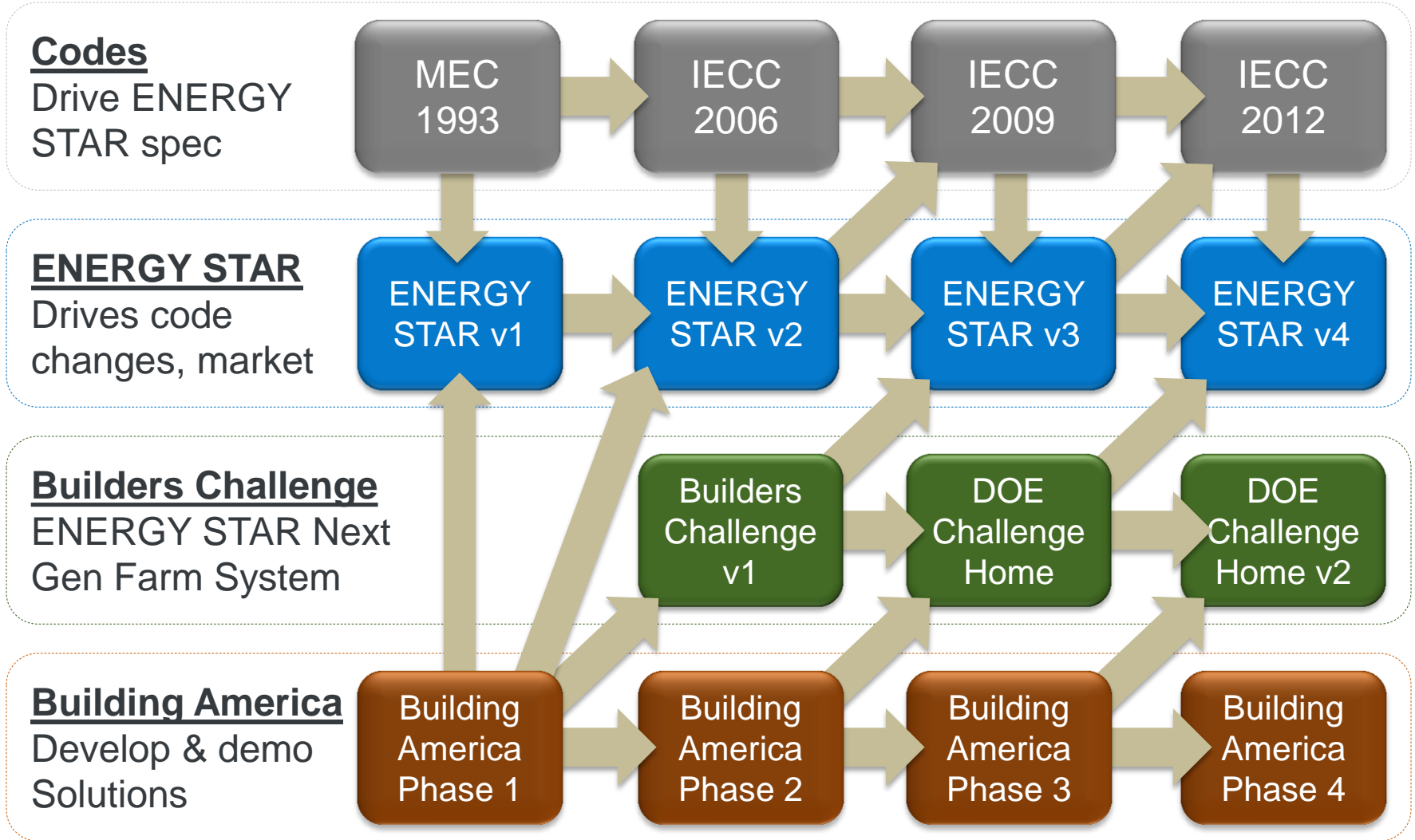
World-Class Expert Guidance...

Building America Solution Center
BASC.energy.gov



...At Your
Fingertips

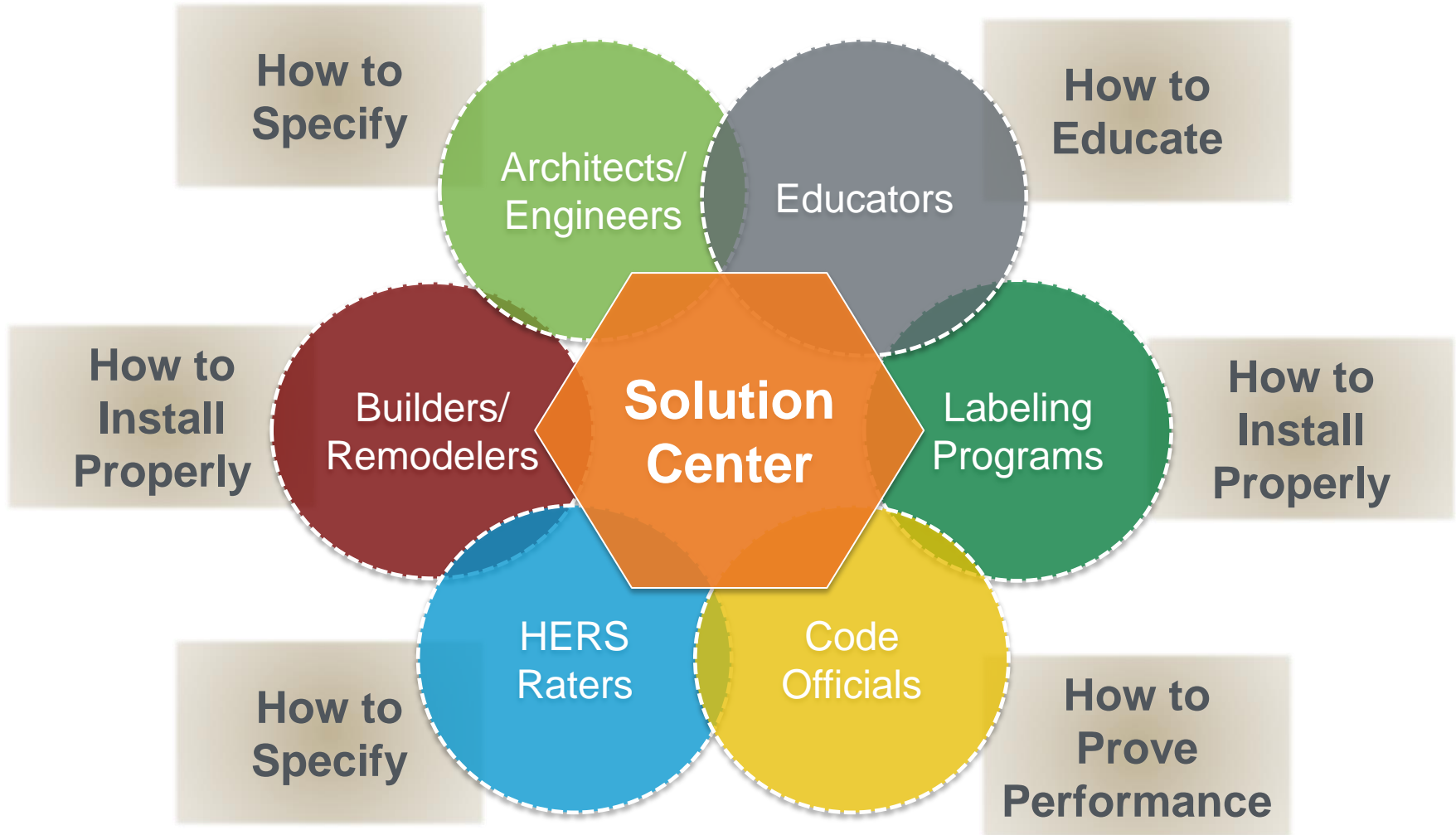
Market Transformation Context



- Lack of Clear Goal
- Poor Customer Focus
- Slow
- Fixed Content
- No Customization
- Hard to Find
- Clear Goal
- More Customer Focus
- Faster
- Continuous Improvement
- Full Customization
- Easy Access

Serve the market transformation process
by disseminating content
most critical for customers
to apply proven innovations.

Building America Solution Center More Customer Focused



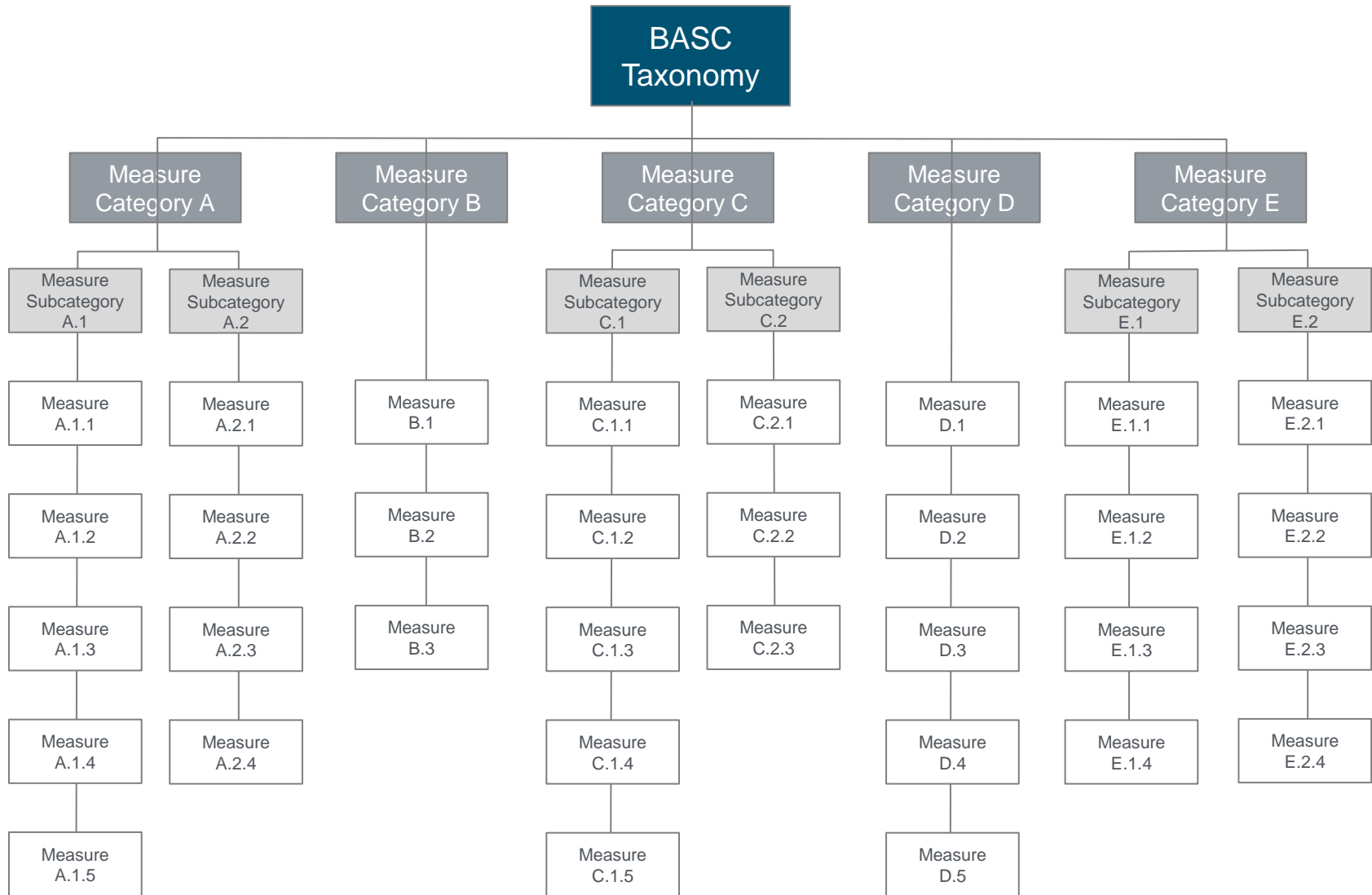
Is:

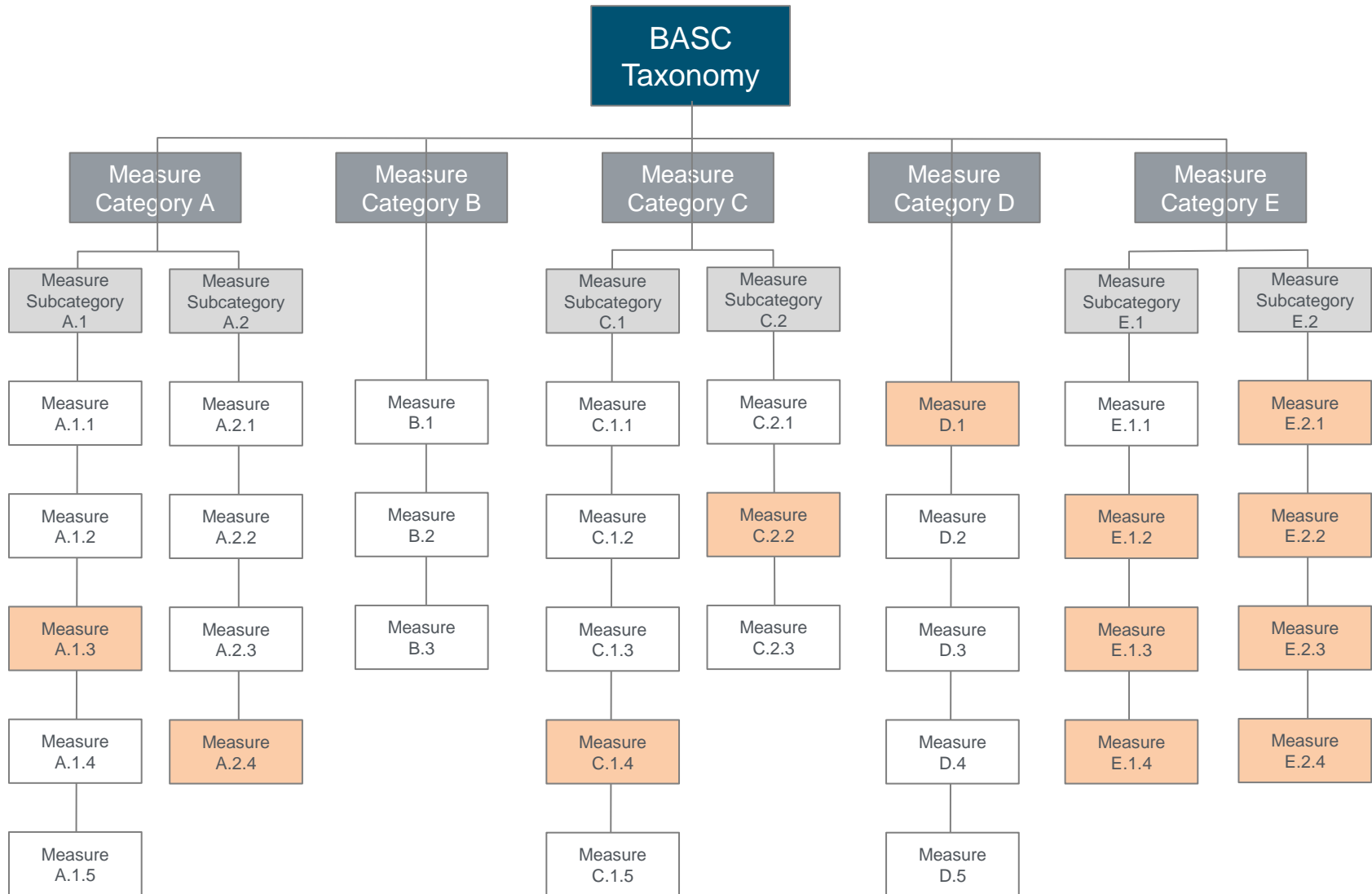
Content for Applying Proven Innovations:

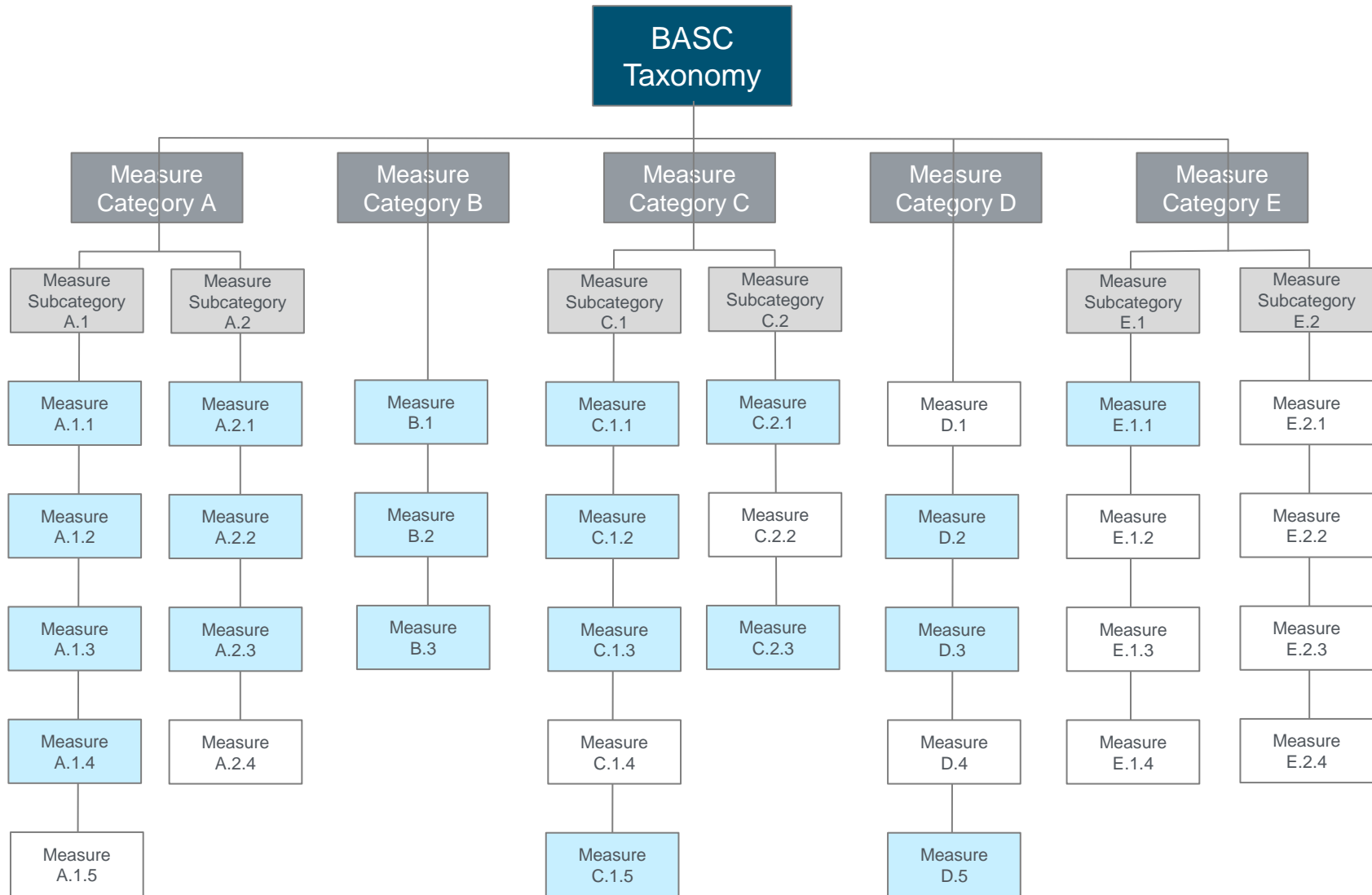
- How to Specify
- How to Install Properly
- How to Prove Performance
- How to Educate

Is *Not*:

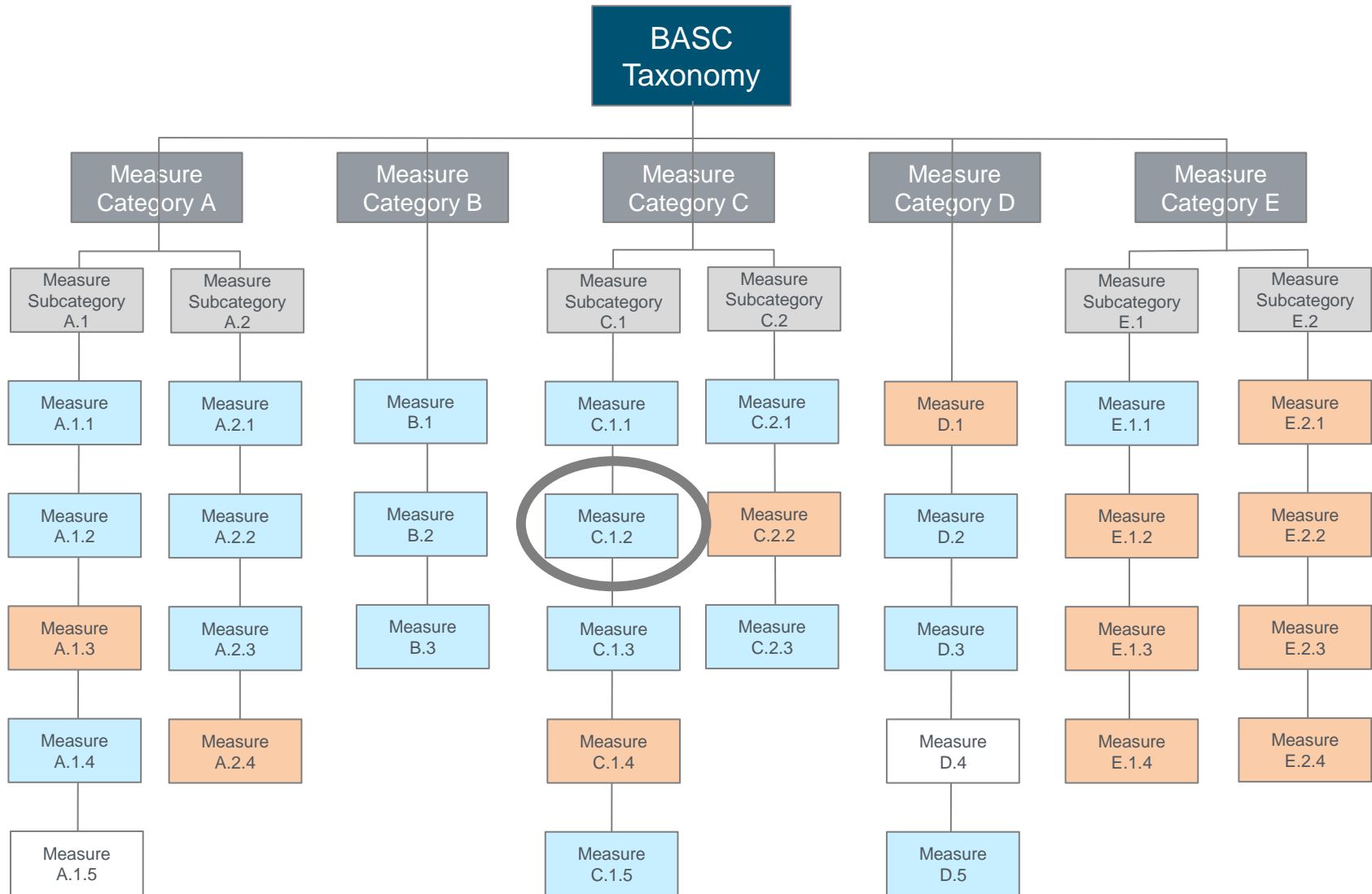
- Design Tool for Customized Energy Packages







Building America Solution Center Taxonomy and Data Base



How to Educate

How to
Install

How to
Specify

Measure
C.1.2

Prove
Perf.

Description

Training
Images

Scope of
Work

Ensuring
Success

Climate
Factors

CAD
Drawings

Codes/Std.
Compliance

Case Studies/
References

Data

Data

Data

Data

Data

Data

Data

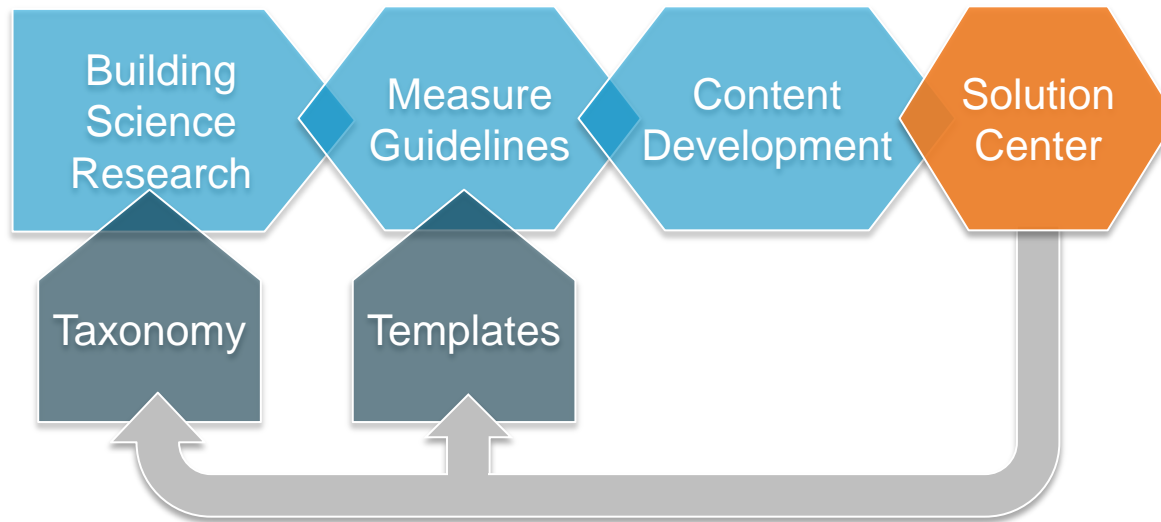
Data

Data Filters:

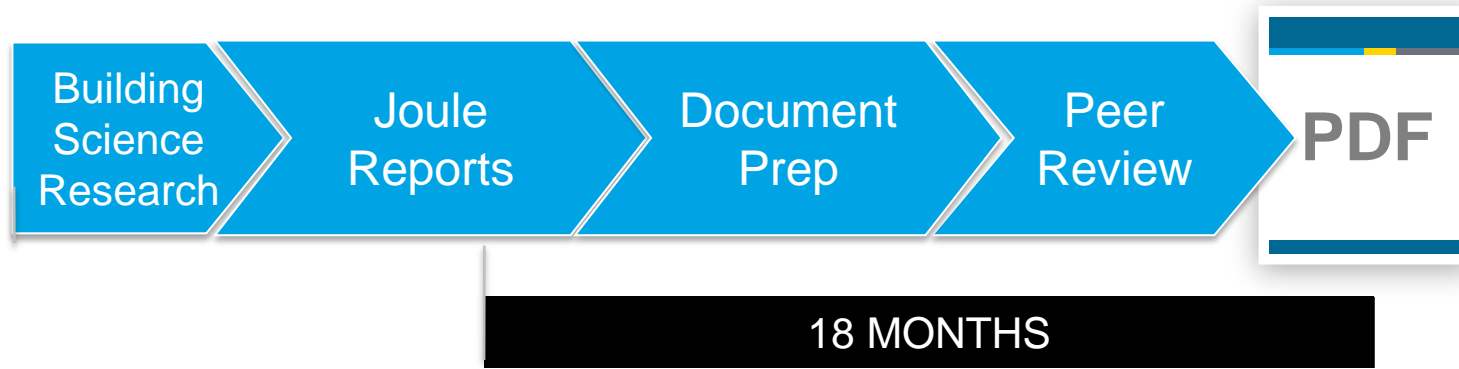
- **Type of Construction: New, Existing, New and Existing**
- **Climate Appropriateness: Specific Building America Climate Zones**

Measure Guide

Building America Solution Center Content Development Process



Old Development Process



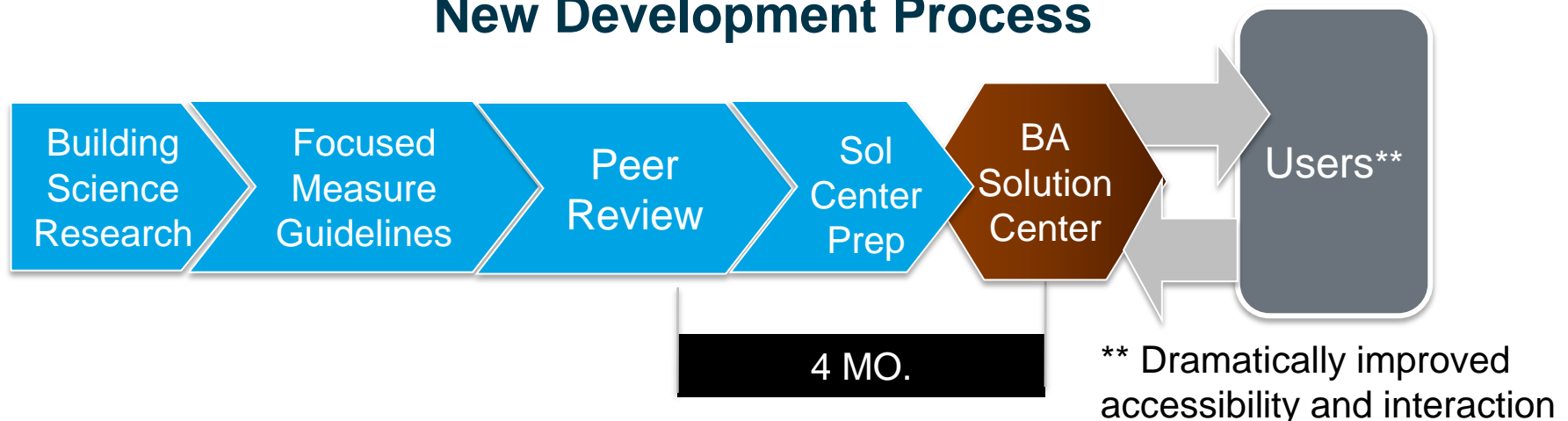
New Development Process



Old Development Process



New Development Process





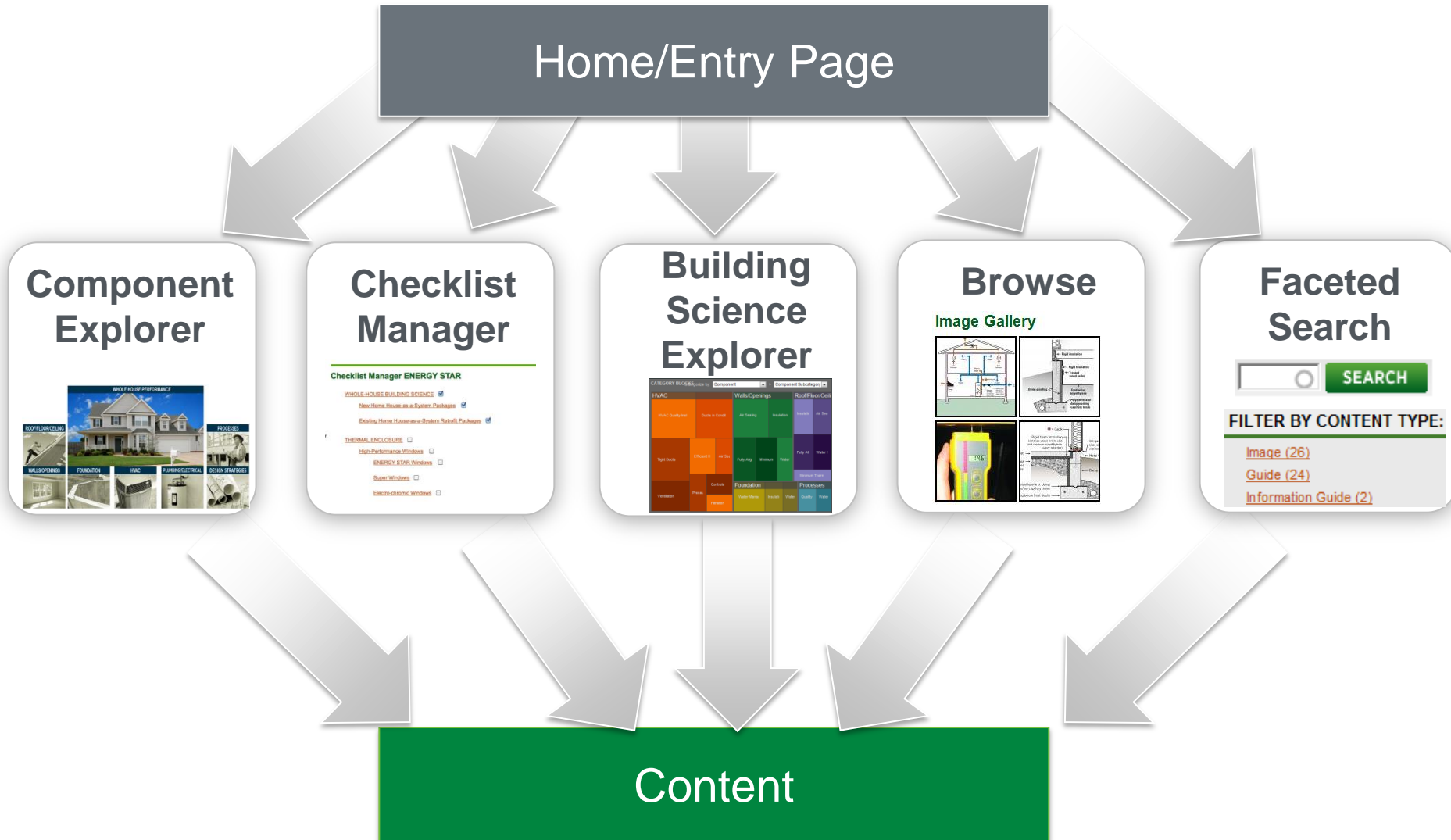
MOBILE FIELDKIT

The Building America Field Kit allows you to save items to your profile for review or use on-site.

Sign Up

or

Log In



Building America Solution Center Tour

Solution Center Tour

U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy

U.S. DEPARTMENT OF
ENERGY | Energy Efficiency &
Renewable Energy

Customization

Building America Solution Center

Search

Login | Register

SEARCH

Solution Center Search | Search Help ▶

EERE » BTP » Building America » Solutions Center »

Bread Crumbs

Solutions Center
Home

Component Explorer

Checklist Manager

Building Science
Explorer

Browser

Guides

Case Studies

Image Gallery

CAD Files

References



Recent
Content

The U.S. Department of Energy's Building America program strives to develop integrated energy systems that dramatically reduce annual energy use and peak energy loads in existing and new homes while also improving overall building quality, comfort, safety, and durability.

RECENTLY ADDED REFERENCES

[International Mechanical Code: 804.3.8 Mechanical Draft Systems for Manually Fired Appliances and Fireplaces](#)

Posted: February 20, 2013

[NFPA 211: Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances, 2013 Edition](#)

Posted: February 20, 2013

[Combustion Appliance Safety & Efficiency Testing](#)

Posted: February 19, 2013

[More References ▶](#)

RECENTLY ADDED GUIDES

[Unvented Combustion Appliances](#)

Posted: January 15, 2013

[Quantity and Location of Supply and Return Duct Terminals Match Contractor Balancing Report](#)

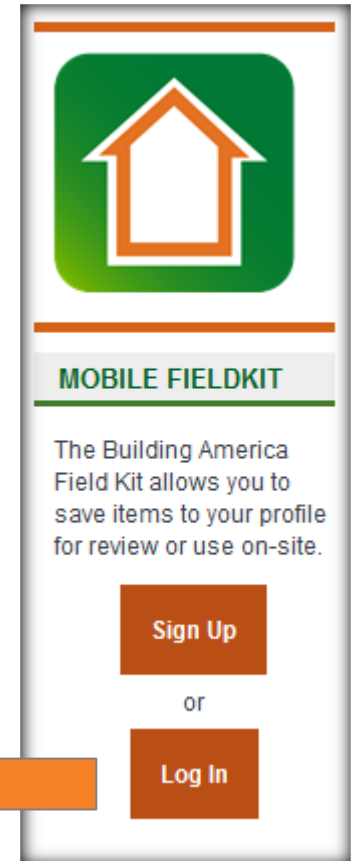
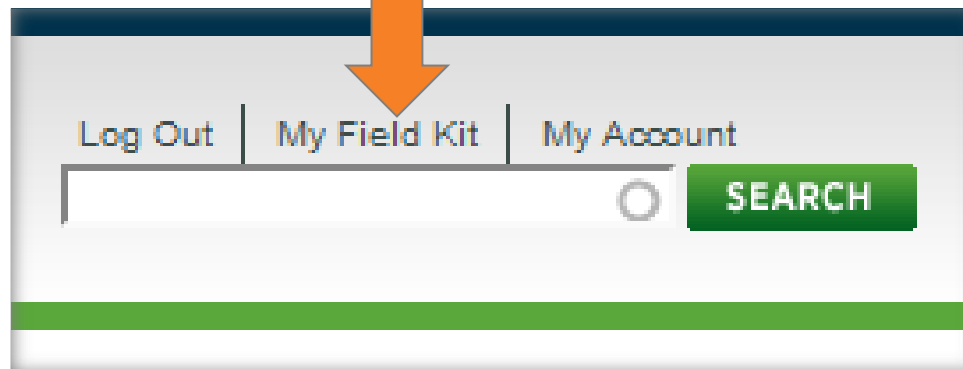
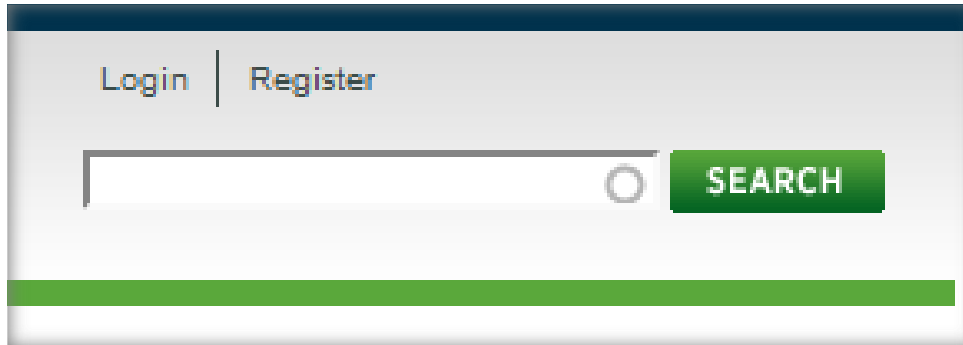
Posted: January 13, 2013

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

Posted: October 16, 2012

[More Guides ▶](#)

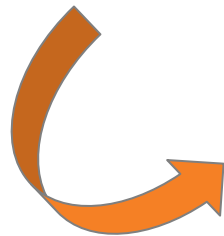
Log In for Customization





DEMO'S FIELD KIT

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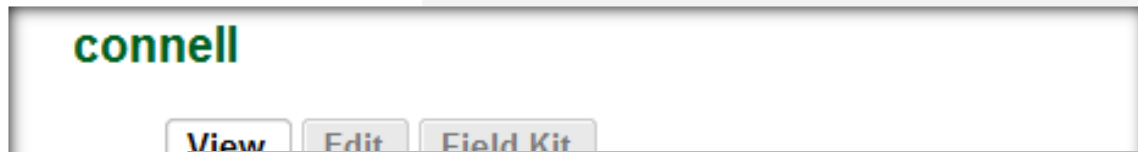
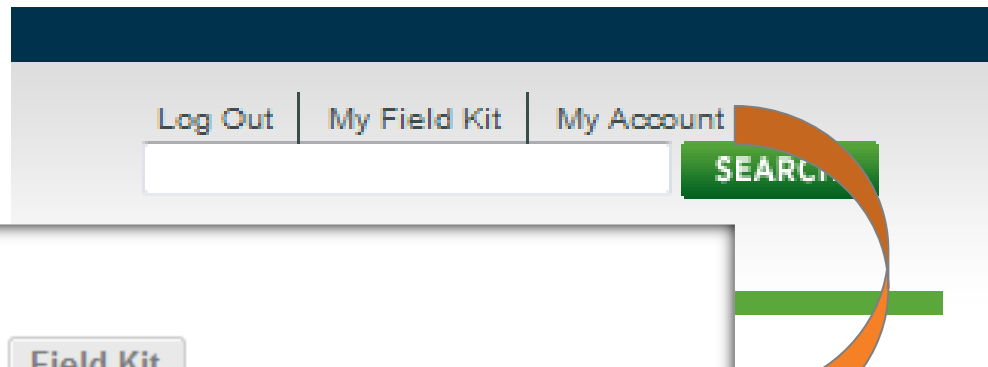
demo's Field Kit

[View](#) [Edit](#) [Field Kit](#)

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Type	Title
CAD File	Air barrier at garage band joist - 1 inch rigid insulation with 1x3 wood furring
CAD File	2 foot plan layout with wall elevation
CAD File	2-stud corner with 1x4 backer
Image	Air barrier is present between the dropped ceiling/soffit and the attic
Image	Neatly cut holes have been properly sealed with caulk and foam
Resource Guide	Walls Behind Fireplaces
Resource Guide	Garage Rim/Band Joist Adjoining Conditioned Space
Resource Guide	Cantilevered Floor
Resource Guide	Jump Ducts
Resource Guide	Step and Kick-Out Flashing at Roof-Wall Intersections

- Look for the Field Kit icon to add content
- **COMING:** Mobile access to your Field Kit.



Heavy Membranes at Eaves in Cold Climates

This measure may not be appropriate for your climate. Please see the climate tab for more information.

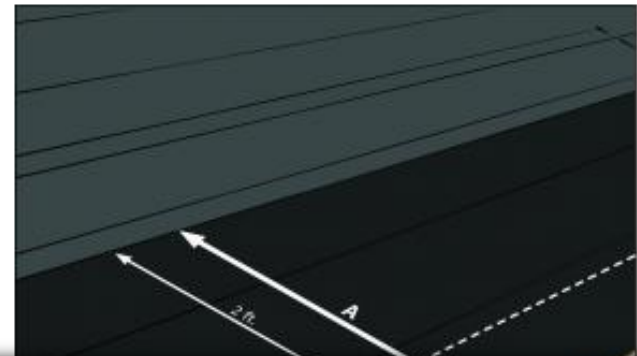
[Feedback](#)

Scope | Description | Ensuring Success | Climate | Training | CAD | Compliance | More Info.

Scope

Water Managed Roof Assembly

In 2009 IECC [Climate Zones 5 and higher](#), self-sealing bituminous membrane or equivalent over sheathing at eaves from the edge of the roof line to > 2 feet up roof deck from the interior plane of the exterior wall.



Attic Knee Walls

Please [Register](#) or [Login](#) to Provide Feedback.

Scope Description Ensuring Success Climate

Scope

Fully Aligned Air Barrier

A. Install a top and bottom plate or blocking at the top and bottom of all knee wall cavities.

Attic Knee Walls

[Feedback](#)

Scope Description

Scope

Fully Aligned Air Barrier

A. Install a top and bottom plate or blocking

Feedback on this Guide

Guide Title

Do you have suggestions to improve this guide?

Did this page resolve your question or help you learn?

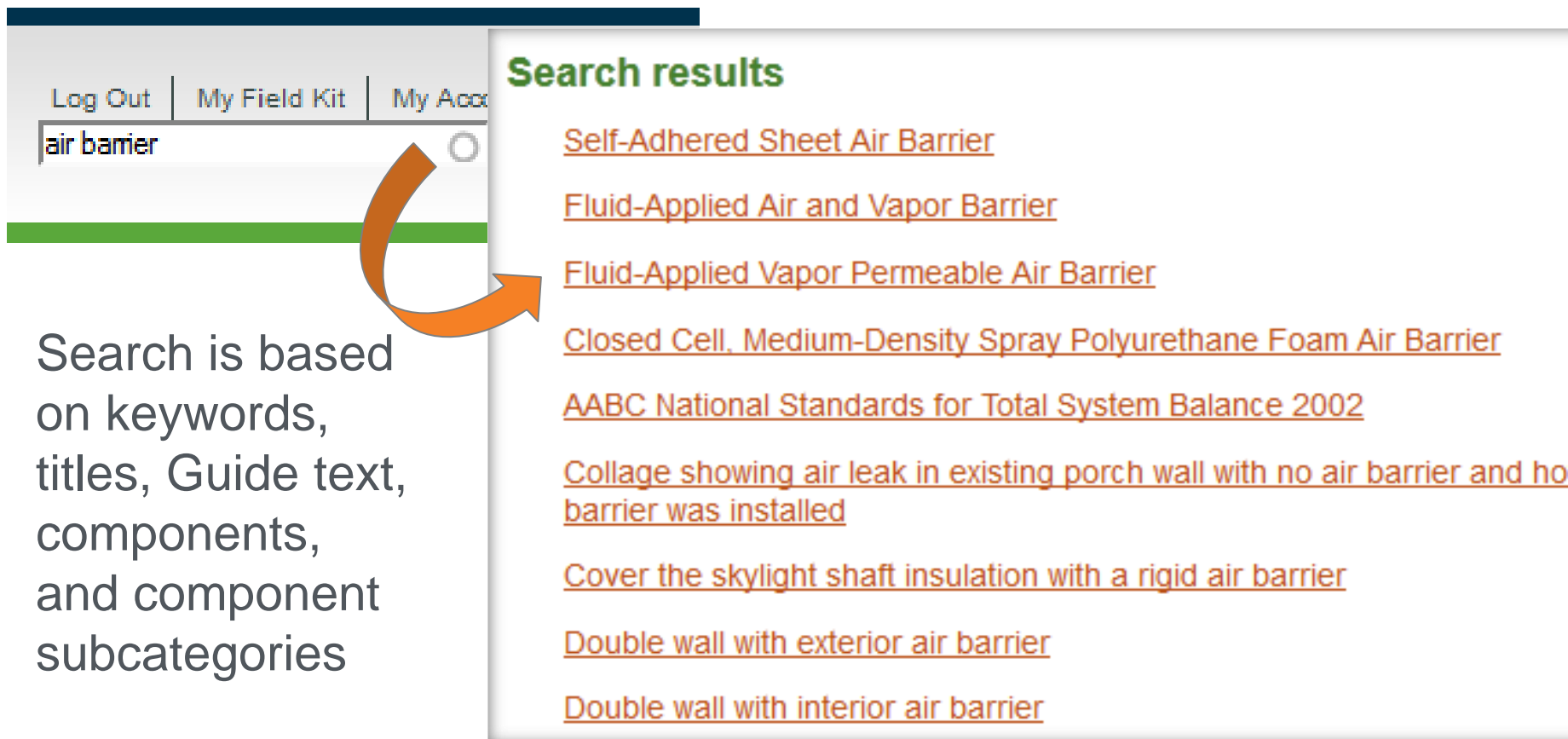
- Yes
 Maybe
 No (please explain below)

Other Comments

Submit



- Build and track your Field Kit
- Customize content to your climate
- Track your searches
- Provide comments and content
- Help DOE understand how the tool is used



The screenshot shows a search interface with a search bar containing the text "air barrier". Above the search bar are navigation links: "Log Out", "My Field Kit", and "My Account". Below the search bar is a list of search results under the heading "Search results". An orange arrow points from the search bar to the first result.

[Self-Adhered Sheet Air Barrier](#)

[Fluid-Applied Air and Vapor Barrier](#)

[Fluid-Applied Vapor Permeable Air Barrier](#)

[Closed Cell, Medium-Density Spray Polyurethane Foam Air Barrier](#)

[AABC National Standards for Total System Balance 2002](#)

[Collage showing air leak in existing porch wall with no air barrier and how barrier was installed](#)

[Cover the skylight shaft insulation with a rigid air barrier](#)

[Double wall with exterior air barrier](#)

[Double wall with interior air barrier](#)

Search is based on keywords, titles, Guide text, components, and component subcategories

Search results include Guides, Images, Case Studies, References, and anything else associated with a Guide

Navigation Terminology: Taxonomy

- The Solution Center is organized around a single, hierarchical taxonomy.
- All content is associated with at least one taxonomy term, but can be associated with many terms.
- All Guides fall into a parent (highest level) taxonomy category.
- When a Guide is loaded, an icon is used to identify this parent.



Thermal Enclosure



HVAC



Water Management

Attic Knee Walls

Please [Register](#) or [Login](#) to Provide Feedback.

Taxonomy:
Thermal
Enclosures



MOBILE FIELDKIT

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or

[Log In](#)

Scope Description Ensuring Success Climate Training CAD Com

Scope

Fully Aligned Air Barrier

- A. Install a top and bottom plate or blocking at the top and bottom of all knee wall cavities.
- B. Back attic knee walls with a rigid air barrier or other supporting material to prevent insulation from sagging and create a continuous thermal barrier*
- C. Seal all seams, gaps, and holes of the air barrier with caulk or foam.
- D. Install insulation without misalignments, compressions, gaps, or voids in all knee wall cavities.



The screenshot shows the 'Building America Solution Center' website. At the top right, there are links for 'Log Out' and 'My Field'. Below the header, a breadcrumb trail reads: [EERE](#) » [BTO](#) » [Building America](#) » [Solution Center](#) » [Guides](#). The main content area features a sidebar on the left with a 'Browser' section containing links for Guides, CAD Files, Case Studies, Image Gallery, and References. The main content area has a title 'Floor Above Garage' and a 'Feedback' link. Below the title is a navigation bar with tabs: 'Scope', 'Description', 'Ensuring Success', 'Climate', 'Training', 'CAD', 'Compliance', and 'More Info.'. The 'Scope' tab is active, showing a section titled 'Fully Aligned Barriers' with two instructions: 'A. Install a continuous rigid air barrier or other supporting material to separate the garage from the conditioned space.*' and 'B. Seal all seams, gaps, and holes of the air barrier.' To the right of the text is a 3D architectural rendering of a ceiling structure with yellow insulation and grey framing, with white arrows pointing to specific components.

Bread crumbs take you to EERE, BTO, Building America, and the Solution Center Home Page.

Bread crumbs also help you know how you got here....

- The Component Explorer displays images representing eight building-related component areas
- Each component is further organized into Component Subcategories (e.g., air sealing, insulation, etc.)
- After selecting a subcategory, all guides associated with that subcategory are displayed.



Component Explorer (cont.)



Foundation

- [Water Managed Foundation](#)
- [Minimum Thermal Bridging](#)
- [Insulation](#)
- [Air Sealing](#)
- [Fully Aligned Air Barriers](#)

Click a component to display subcategories
Click subcategories to display Guides

Component Explorer

Foundation » Insulation

[IECC Code Level Insulation](#)

[Insulation Installation \(RESNET Grade\)](#)

[Slab Edge Insulation](#)

Slab Edge Insulation

Please [Register](#) or [Login](#) to Provide Feedback.

Scope

Description

Ensuring Success

Climate

Training

CAD

Compliance

More Info.

Scope

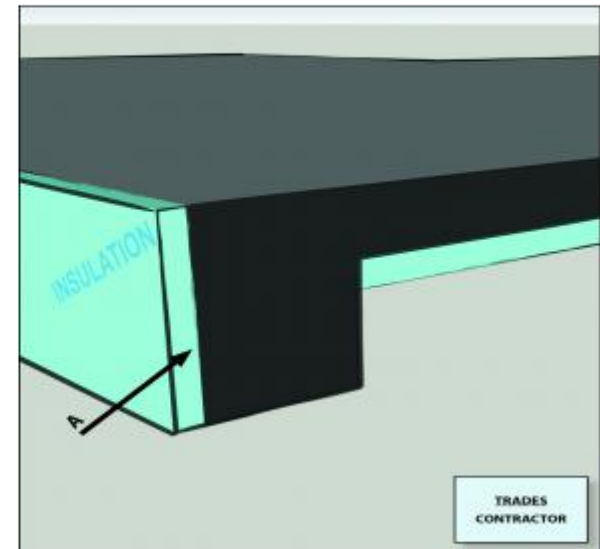
Reduced Thermal Bridging

For slabs on grade in [Climate Zone 4 and higher](#), 100% of the slab edge is insulated to \geq R-5 at the depth specified by the 2009 IECC and aligned with thermal boundary of the walls.

- A. Install slab edge insulation to extend to the top of the slab so it provides a complete thermal break.

Notes:

Consistent with the 2009 IECC, slab edge insulation is only required for slab-on-grade floors with a floor surface less than 12 inches below grade. Slab insulation shall extend to the top of the slab to provide a complete thermal break. If the top edge of the insulation is installed between the exterior wall and the edge of the interior slab, it shall be permitted to be cut at a 45-degree angle away from the exterior wall.



- The Checklist Manager currently allows exploration of content specific to ENERGY STAR Version 3 checklists.
- The Checklist Manager does not provide pathways to additional, non-related data .
- Topics are displayed in the same order as they appear on the ENERGY STAR checklists.
- Users can drill down into the checklist to display Guides associated with each requirement.
- Checklists supporting other programs will be added in the future.

ENERGY STAR Qualified Homes, Version 3 (Rev. 06)



Checklist Manager provides links to technical guides that align with each measure included in the checklists for ENERGY STAR Qualified Homes, Version 3 (Rev. 6). The numbers and titles included in the Checklist Manager follow the same order as the four ENERGY STAR Inspection Checklists for National Program Requirements. To view programmatic footnotes, see the original [program checklists](#). Portions of the programmatic footnotes have been added to the Scope tabs in the guides. For additional ENERGY STAR program requirements and information, visit the [ENERGY STAR Website](#).

ENERGY STAR Windows

Please [Register](#) or [Login](#) to Provide Feedback.

▼ Thermal Enclosure System

- ▼ TE 1. High-Performance Windows, Doors, and Skylights
 - TE 1.1. Prescriptive Path
 - TE 1.2. Performance Path
- ▶ TE 2. Quality-Installed Windows, Doors, and Skylights
- ▶ TE 3. Fully-Aligned Windows, Doors, and Skylights
- ▶ TE 4. Reduced Thermal Bridging
- ▶ TE 5. Air Sealing

Scope Description Ensuring Success Climate Training CAD Compliance More Info.

Scope

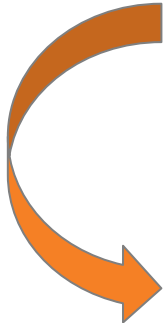
ENERGY STAR Windows

Prescriptive Path: Fenestration shall meet or exceed ENERGY STAR requirements


- A. Select windows, doors, and skylights to meet ENERGY STAR program requirements for windows, doors, and skylights.
- B. Note that the U-value and the Solar Heat Gain Coefficient (SHGC) for doors apply to the whole door, not just the glazing portion.

TRADES CONTRACTOR FRAMER

- COMING: Additional checklists will be added
 - DOE Challenge Home Checklists
 - Existing homes



Checklist Manager



DOE Challenge Home National Program Requirements (Rev. 02)

The Building America Solution Center has integrated the DOE Challenge Homes National Program Requirements (Rev. 02) into the Checklist Manager. Use the boxes to access specific parts of the Requirements, which have been numbered and titled to be consistent with the DOE Challenge Home National Program Requirements. Additional information can be found at the [DOE Challenge Home Website](#).

DOE Challenge Home offers both a Prescriptive Path and Performance Path to meet program requirements. Specific information about the difference between these compliance options can be found [here](#). Both paths require compliance with the following mandatory requirements:

- ▶ 1. ENERGY STAR for Homes Baseline
- ▼ 2. Envelope
 - ☑ Fenestration shall meet or exceed latest ENERGY STAR requirements
 - ☑ Ceiling, wall, floor, and slab insulation shall meet or exceed 2012 IECC levels
- ▶ 3. Duct System
- ▶ 4. Water Efficiency

Scope

Description

Ensuring Success

Climate

Training

CAD

Compliance

More Info.

Scope

Fully Aligned Air Barrier

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- C. Seal all seams, gaps, and holes of the air barrier with caulk or foam.
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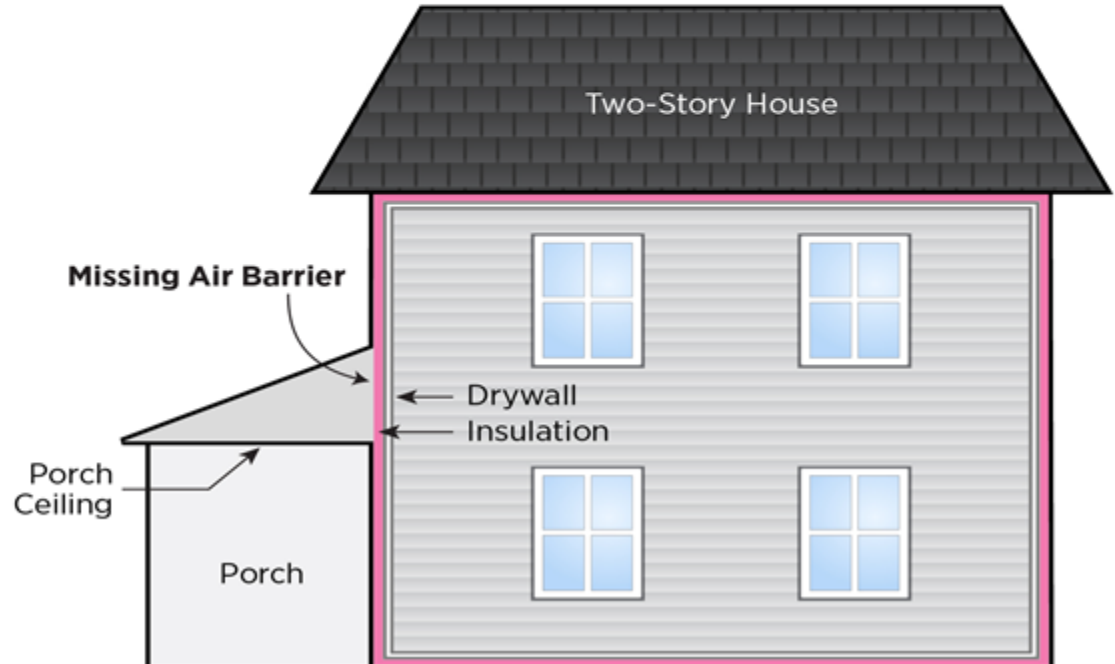
Scope: Clearly defines and bounds the building topic in a way builders and remodelers can use to contractually obligate their subcontractors.

Description:
Provides an explanation of the building topic and specific “how-to” steps for implementing.

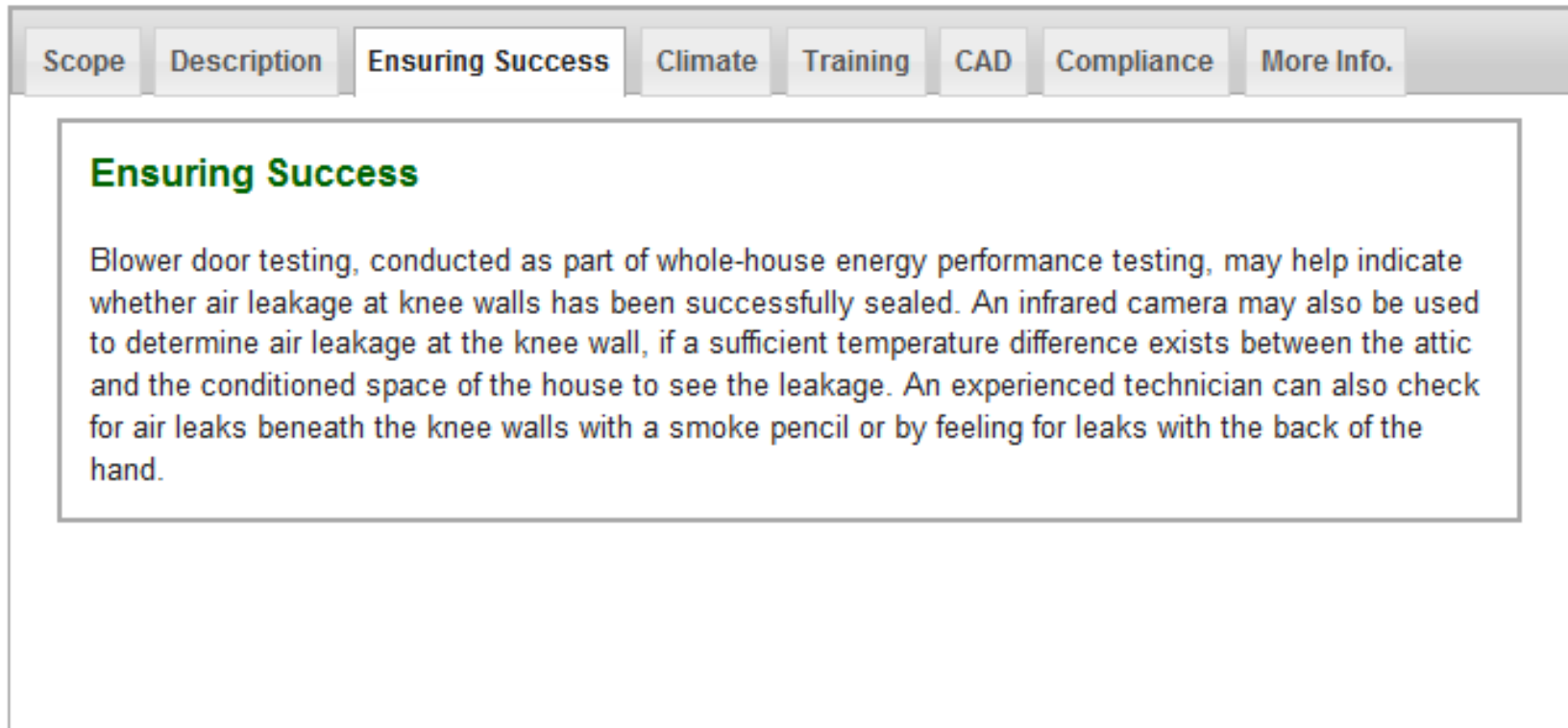
Scope Description Ensuring Success Climate Training CAD Compliance More Info.

Description

In two-story homes with covered porches, builders may sometimes forget to sheathe the wall area that will be hidden when the porch ceiling is installed, because the porch is framed before the wall sheathing is installed. If there is no exterior sheathing, blown insulation cannot be installed. Even if batt insulation is installed, if there is no exterior sheathing that is caulked in place to serve as an air barrier, the insulation is subject to wind washing from outside air, especially if the porch ceiling is vented or is not air tight.



The diagram illustrates a cross-section of a two-story house with a covered porch. The house has a dark grey roof and a light grey exterior wall with four windows. The porch is on the left side, with a grey porch ceiling. A pink line highlights the junction between the porch ceiling and the exterior wall. An arrow points to this junction with the label "Missing Air Barrier". Inside the house, there is a layer of insulation labeled "Insulation" and a layer of drywall labeled "Drywall".



The screenshot shows a web interface with a navigation menu at the top. The menu items are: Scope, Description, Ensuring Success (highlighted), Climate, Training, CAD, Compliance, and More Info. Below the menu is a content box with the following text:

Ensuring Success

Blower door testing, conducted as part of whole-house energy performance testing, may help indicate whether air leakage at knee walls has been successfully sealed. An infrared camera may also be used to determine air leakage at the knee wall, if a sufficient temperature difference exists between the attic and the conditioned space of the house to see the leakage. An experienced technician can also check for air leaks beneath the knee walls with a smoke pencil or by feeling for leaks with the back of the hand.

Ensuring Success: A big-picture discussion of health, safety, durability, performance issues, test-in/test-out requirements, and scheduling and sequencing considerations.

Scope Description Ensuring Success **Climate** Training CAD Compliance More Info.

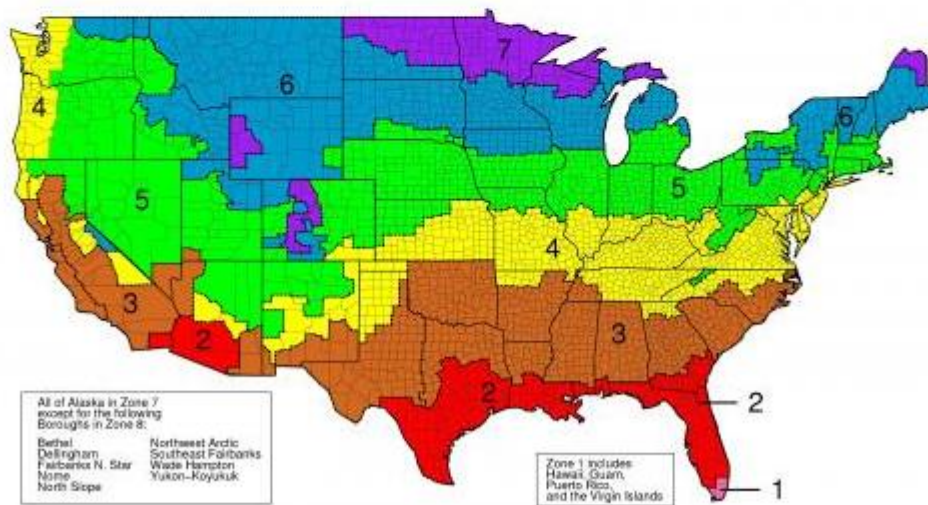
Climate

ENERGY STAR Version 3, (Rev. 5)

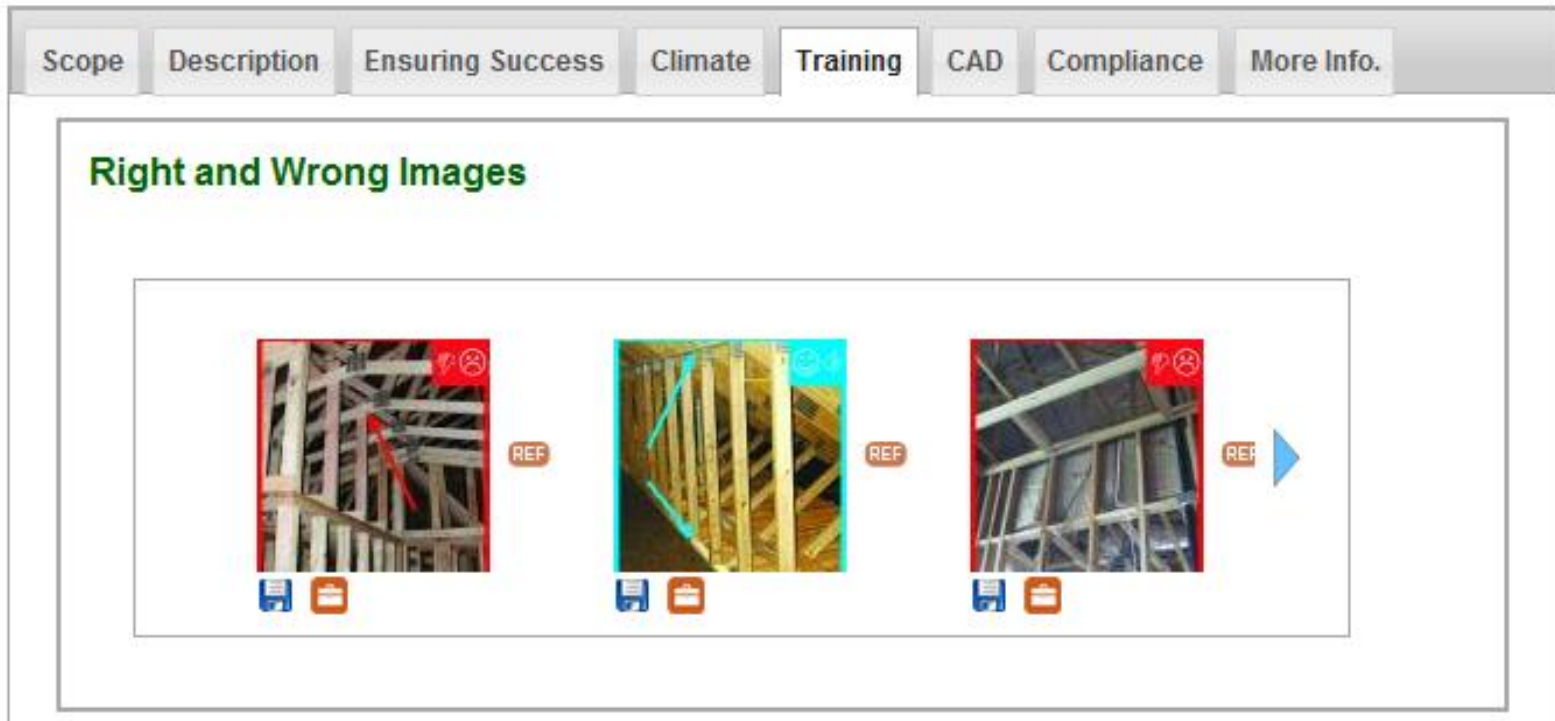
Thermal Enclosure Checklist, Fully-Aligned Air Barriers. A complete air barrier shall be provided that is fully aligned with the insulation at exterior surface of walls in all climate zones; and also at interior surface of walls for Climate Zones 4-8.

DOE Challenge Home

Exhibit 2: DOE Challenge Home Target Home. Infiltration (ACH50): Zones 1-2: 3; Zones 3-4: 2.5; Zones 5-7: 2; Zone 8: 1.5. Envelope leakage shall be determined by an approved verifier using a RESNET-approved testing protocol.

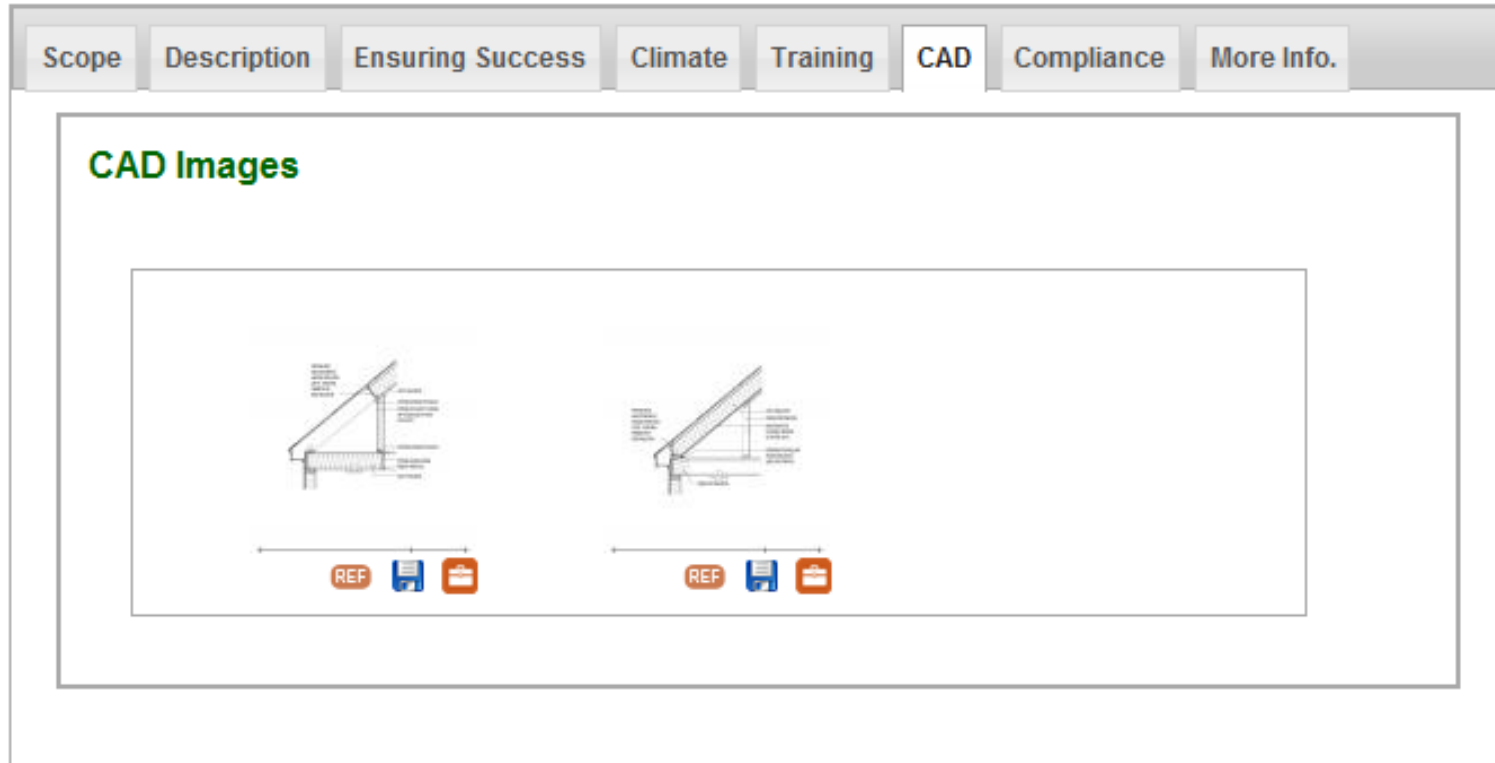


Climate: Cites climate-specific codes, standards, ENERGY STAR, and Challenge Home guidance.



Training: Includes educational resources such as Right/Wrong photographs of proper and improper installation.

COMING: Videos and presentations




CAD: Includes Architectural CAD files of the building topic in DWG and PDF forms.

Scope	Description	Ensuring Success	Climate	Training	CAD	Compliance	More Info.
<h2>Compliance</h2> <p><u>ENERGY STAR Version 3, (Rev. 5)</u> <i>Thermal Enclosure Checklist, Fully-Aligned Air Barriers.</i> A complete air barrier shall be provided that is fully aligned with the insulation at exterior surface of walls in all climate zones; and also at interior surface of walls for Climate Zones 4-8. All insulated vertical surfaces are considered walls (e.g., exterior walls, knee walls) and must meet the air barrier requirements for walls.</p> <p><u>DOE Challenge Home</u> <i>Exhibit 2: DOE Challenge Home Target Home.</i> Certified under ENERGY STAR Qualified Homes Version 3. Infiltration (ACH50): Zones 1-2: 3; Zones 3-4: 2.5; Zones 5-7: 2; Zone 8: 1.5. Envelope leakage shall be determined by an approved verifier using a RESNET-approved testing protocol. Building envelope assemblies, including exterior walls and unvented attic assemblies (where used), shall comply with the relevant vapor retarder provisions of the 2012 International Residential Code.</p> <p><u>ASTM E1677-11</u> <i>Standard Specification for Air Barrier (AB) Material or System for Low-Rise Framed Building Walls.</i> This specification covers minimum performances and specification criteria for an air barrier material or system for framed, opaque walls of low-rise buildings. The provisions are intended to allow the user to design the wall performance criteria and increase air barrier specifications for a particular climate location, function, or design.</p>							

Compliance: Provides specific compliance references from applicable codes and standards.

Scope Description Ensuring Success Climate Training CAD Compliance **More Info.**

Case Studies

- David Weekley Homes: Eagle Springs & Waterhaven, Houston, TX**
PNNL. 2012. Building America Case Study: David Weekley Homes, Eagle Springs & Waterhaven, Houston, TX, PNNL-SA-87333, prepared by the Pacific Northwest National Laboratory for the U.S. Department of Energy.
[Link to Document](#) 

References

- 2009 IECC—International Energy Conservation Code**
2009 IECC, International Energy Conservation Code. International Code Council, Washington, D.C.
[Link to Document](#)

More Info:

- References - Full citations with links for content.
- Case Studies - Summaries of Building America teams and builders who have applied best practices.
- Resources - Relevant information not previously cited as references.
- **COMING: Innovations**

Guides (cont.)

Scope

R

CAD Compliance More Info.

No rigid backing on knee wall

4 of 11

Click on any image within the Guide to enlarge it in a sliding window. Scroll through all images in the Guide.

WORD PATTERNS

air sealing hvac insulation	118
building america energy...	95
energy water hvac system	94
modeling tools software...	71
builders challenge perfo...	44

CATEGORIES

Conte	Keyw	Orga	Consi	Clima
Specif	HVAC	NREL	Homes	All
Study	sealing	BSC	Homes	Cold
house	tools	DOE	Homes	Humid
Admini	audits	CARB	Multifa	Dry
Outrea	system	Inc.	Multifa	Cold

CATEGORY BLOCKS

Categorize by: >

Case Study		Whole House			Best Practices		
Cold	Hot-Dry	All	Hot-Humid	Very Cold	All	Cold	Mixed-Dry
Hot-Humid	Very Cold	Cold	Mixed-Humid	Hot-Dry	Very Cold	Hot-Dry	Mixe-Humi
Mixed-Dry	All	Mixed-Dry	Marine	Marine	All	Hot-Humid	Cold
Mixed-Humid	Very-Cold	All	Hot-Humid	Hot-Dry	Mixe-Hum	Marit	Very Cold
Mixed-Humid	Marine	Cold	Mixed-Humid	Very Cold	All	very Cold	Wh
						Cold	All

PUBLICATIONS

[Export](#)

- 2011 EnergyValue Housin...
- 2011 Residential Energy E...
- 40% Whole-House Energy...
- 40% Whole-House Energy...
- A Feasibility Study: Ductles...
- A Method for Determining...
- A Realistic Hot Water Draw...
- Achieving Very High Efficie...
- Advanced Air Distribution...
- Advanced Strategy Guideli...
- Advanced Wall Framing
- Air barriers—Airtight Drywa...
- Air barriers—Tub, Shower...

Building Science Explorer visualizes Building America and reference publications. It allows a user to explore the classification of content, and to drill down to specific Publications.

Building Science Explorer: CATEGORY BLOCKS

The screenshot displays the 'CATEGORY BLOCKS' interface. At the top, there is a 'Categorize by:' dropdown menu currently set to 'Climate'. An orange arrow points to this dropdown. A secondary dropdown menu is open, showing options: 'Content Type', 'Author', 'Organization', 'Construction Type', and 'Climate'. The main area is filled with a grid of colored blocks representing different content categories and climate types. The blocks are organized into sections: 'Case Study' (orange and brown blocks), 'Whole-House' (green blocks), 'Outreach' (yellow-green blocks), 'Best Practices' (teal blocks), and 'Administrative' (purple blocks). Each block contains text labels such as 'Cold', 'Hot-Dry', 'Hot-Humid', 'Mixed-Dry', 'Mixed-Humid', 'All', 'Very-Cold', 'Marine', 'Hot-Hur', 'Cold', 'Mixed-Hu', 'Very-C', 'Marine', 'Hot-Humid', 'Very-Cold', 'Hot-Dry', 'Mixed-Humi', 'Hot-Dry', 'Cold', 'Mixed-Dry', 'Marine', 'All', 'Very-C', 'Cold', 'Very-Co', 'Cold', 'Mixed-I', 'Hot-Dr', 'Mixec', 'Marin', 'All', 'Very-C', 'Cold'.

Change content categorizations

Building Science Explorer

WORD PATTERNS

- air sealing hvac insulation 118
- building america energy... 95
- energy water hvac system 94
- modeling tools software... 71
- builders challenge perfo... 44

CATEGORIES

Content	T COUNT ▲	Keywords	COUNT ▲	Organizat	COUNT ▲	Construct	COUNT ▲	Climate	COUNT ▲
Measure ...	205	HVAC	126	NREL	144	New Homes	212	All	212
Case Study	187	Air sea...	100	BSC	97	New and ...	117	Cold	84
Whole ho...	116	Softwa...	84	DOE	66	Existing H...	75	Hot-Humid	58
Administr...	53	Energy ..	79	CARB	59	Existing H...	13	Hot-Dry	49
Outreach	51	PV sys...	59	Steven ...	48	New Hom...	5	Very Cold	35
Best Prac...	28	Walls	28	PNNL	36			Mixed-Hu...	28
Whole-Ho...	2	Distrib...	53	ORNL	28			Mixed-Dry	27
Program l...	1	Solar h...	51	FESC	19			Marine	12
		Water ...	48	Southf...	16			Very-Cold	9
		Insulati...	41	IBACO...	14			Cold-Dry	2
		Design ...	40	NAHB ...	10			Hot	2
		Spray f...	39	Mount...	7			Mixed Dry	2
		Indoor ...	37	BA-PIRC	5				

CATEGORY BLOCKS

- Case Study
- Whole House
- Best Practice
- Outreach
- Measure Speci
- Adminis

PUBLICATIONS

Export

- 2011 EnergyValue Housin...
- 2011 Residential Energy E...
- 40% Whole-House Energy...
- 40% Whole-House Energy...
- A Feasibility Study: Ductles...
- A Method for Determining...
- A Realistic Hot Water Draw...
- Achieving Very High Efficie...
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- Air barriers—Airtight Drywa...
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Guides



Case Studies



Image Gallery



CAD Files



References



Guides

[All Other Ceilings](#)

CAD Files

References

[2009 IECC—International Energy Conservation Code](#)

Author: International Code Council

Organization: International Code Council

2009 IECC, International Energy Conservation Code. International Code Council, Washington, D.C.

[2009 IRC—International Residential Code for One and Two Family Dwellings](#)

Author: International Code Council

Organization: International Code Council

2009 IRC, International Residential Code for One and Two Family Dwellings. 2009. Fifth Printing. International Code Council, Washington, D.C.

[2012 IECC—International Energy Conservation Code](#)

Author: International Code Council

Organization: International Code Council

2012 IECC, International Energy Conservation Code. International Code Council, Washington, D.C.

Browser: Image Gallery



Click an image to enlarge in a sliding window.

High Performance Building Details: Garage Band Joist Air Barrier

Consortium for Advanced Residential Buildings (CARB). 2010. *High Performance Building Details: Garage Band Joist Air Barrier*. Prepared by Steven Winter Associates for the U.S. Department of Energy, Building America Program.

Link:

[High Performance Building Details: Garage Band Joist Air Barrier](#)

Authors:

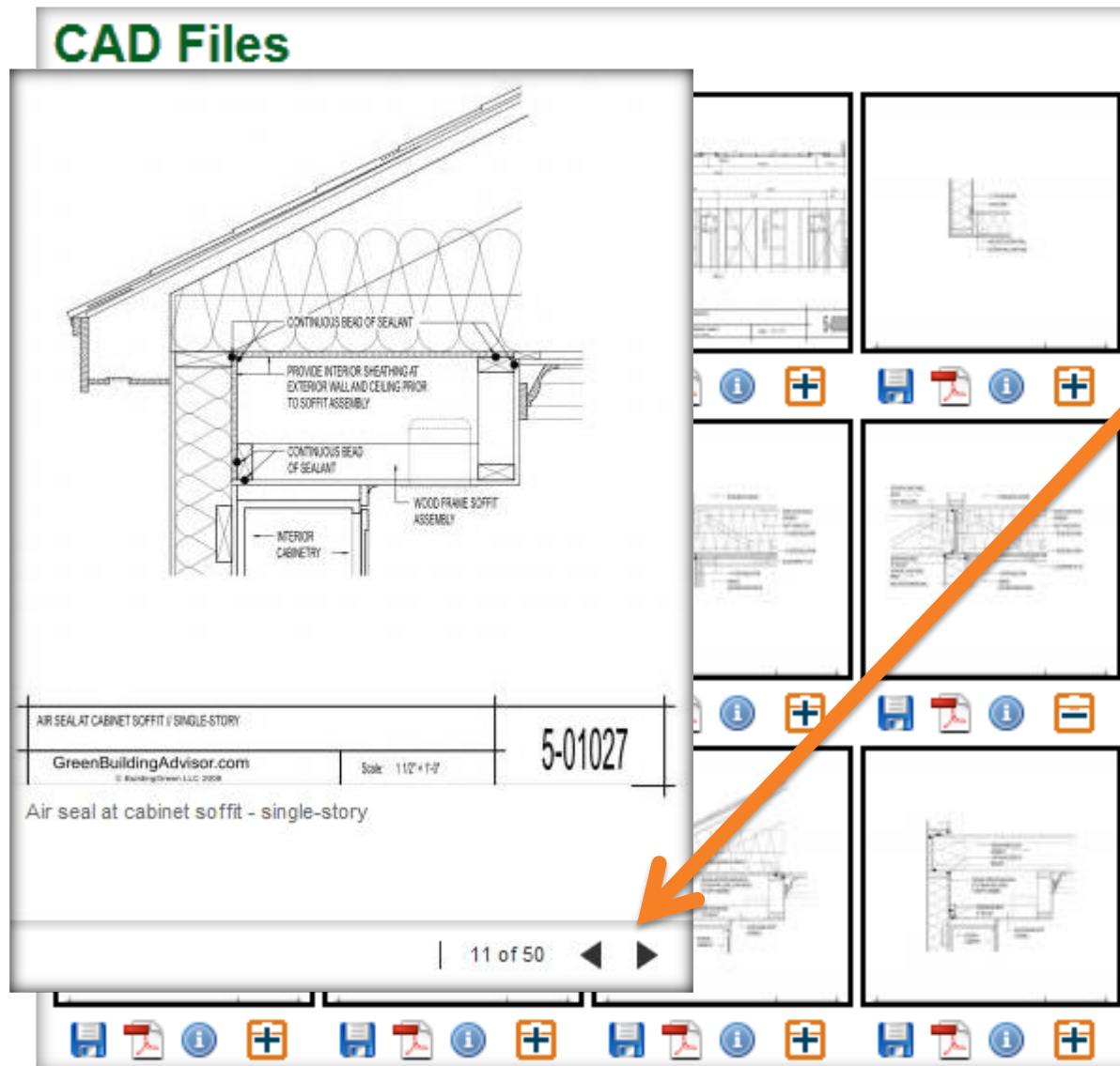
[Consortium for Advanced Residential Buildings](#)

Organization:

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- Images can be displayed full size. Use Save As to save to file.
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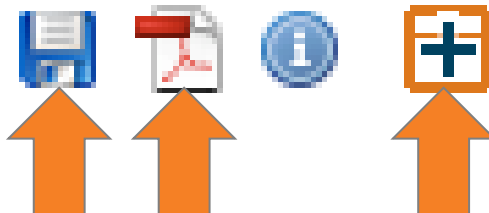
Building Plans for the ENERGY STAR Thermal Bypass Checklist

Green Building Advisor. 2011. Building Plans for the ENERGY STAR Thermal Bypass Checklist. Green Building Advisor, Newtown, Connecticut, The Tanton Press.

Link:
[Building Plans for the ENERGY STAR Thermal Bypass Checklist](#)

Authors:
[Green Building Advisor](#)

Organization:
[Green Building Advisor](#)



- CAD files can be saved in .dwg format
- CAD files can be converted to pdf
- Use the “REF” icon to locate the source of the CAD file
- Save CAD files directly to your Field Kit

All Browser media can be searched using faceted search or simply browsed.

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- Climate Zone
- Keywords
- Author
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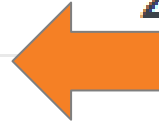
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[Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings \(ANSI/ASHRAE 62.2-2010\)](#)

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[2012 IRC—International Residential Code for One and Two Family Dwellings](#)

Posted: September 12, 2012

[2009 IRC—International Residential Code for One and Two Family Dwellings](#)

Posted: September 12, 2012

[More References](#) ▶

All References can be quickly accessed as a list.

Building America Solution Center Wrap-Up

- At its core, the Solution Center is web-accessible, structured data base of Building America best practices.
- The user interface consists of a number of tools to find focused content and to support partnering programs.
- Registered users are emphasized to give them more relevant information.
- The first priority has been developing tools and content to support ENERGY STAR Version 3.
- Initial content has been based on legacy information. New content will flow from Building America research.
- The Solution Center is a living database that will be continually populated and updated.

- Review comments submitted: 1 December 2012
- Public launch: January 2013
- DOE Challenge Home upgrade: October 2013
- Existing home renovation: 2014
- Content will be continuously populated and updated

Three Mechanisms for Comments for Registered Users

- Submit specific comments on each guide using the “FEEDBACK” links within the guides.
- A general comments and content submission feature will be added by Monday, 15 October.
- Email comments to:

basc@pnnl.gov

Access the Building America Solution Center at:

<http://basc.energy.gov>

Also accessible through the Building America Website at:

<http://www.buildingamerica.gov>

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