

ENERGY STAR FOR HOMES



ENERGY STAR

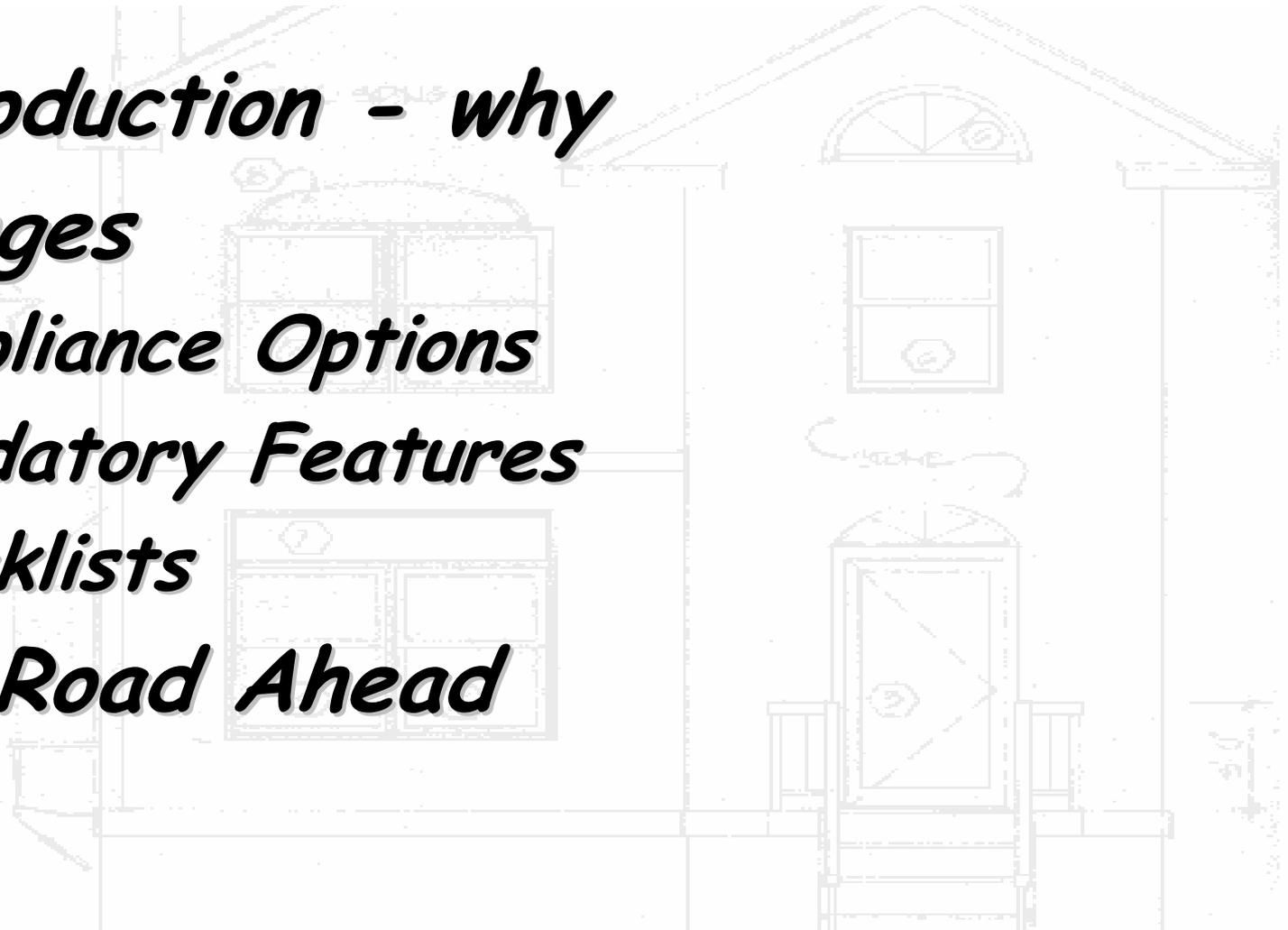
A faint architectural drawing of a house with a gabled roof, multiple windows, and a front door with a small porch. The drawing is overlaid with the main title text.

Proposed 2011 Specification

ENERGY STAR QUALIFIED HOMES PROPOSED 2011 SPEC OUTLINE

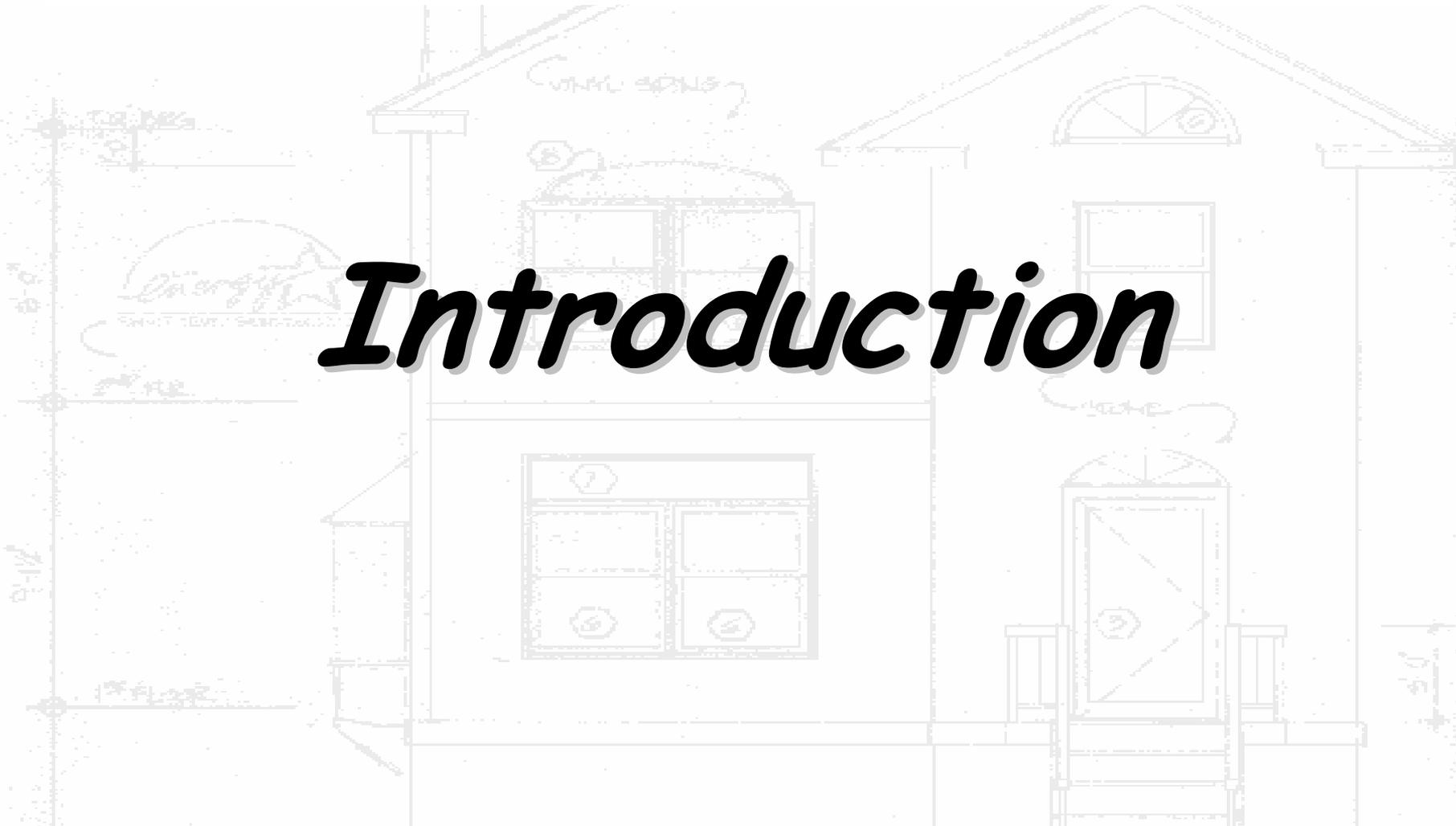


- ***Introduction - why***
- ***Changes***
 - Compliance Options***
 - Mandatory Features***
 - Checklists***
- ***The Road Ahead***





Introduction



ENERGY STAR QUALIFIED HOMES PROPOSED 2011 SPEC

WHAT IS ENERGY STAR FOR HOMES?



A voluntary labeling program that:

- ***Defines Energy Efficient***

Rigorous Specifications

Third-Party Verified

- ***Recognizes Builders***

Government-Backed Label

Web Site, Marketing, Awards

METHOD TO ENERGY STAR MADNESS

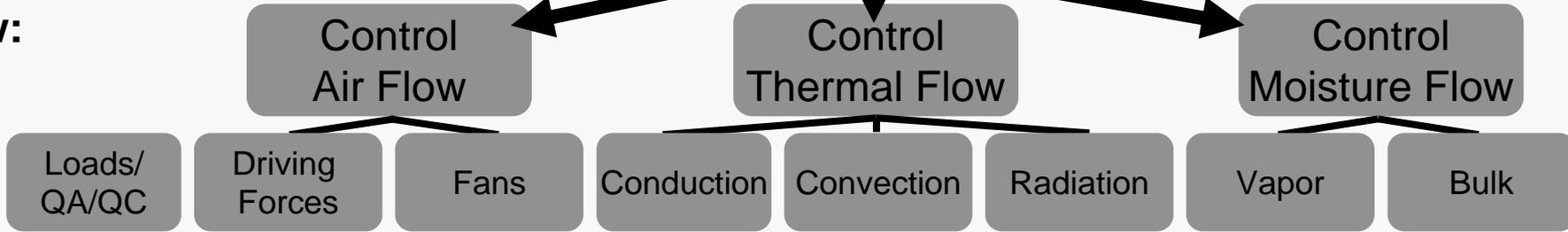
Goal:

- < Risk
- > Customer Satisfaction
- > Differentiation
- > Environmental Protection
- > National Security



Better Home
Lower Cost
Badge of Honor

How:



These are the key principles behind ENERGY STAR. Building science principles are being addressed in a comprehensive manor. A high performance home controls air flow, thermal flow, and moisture flow.

METHOD TO ENERGY STAR MADNESS

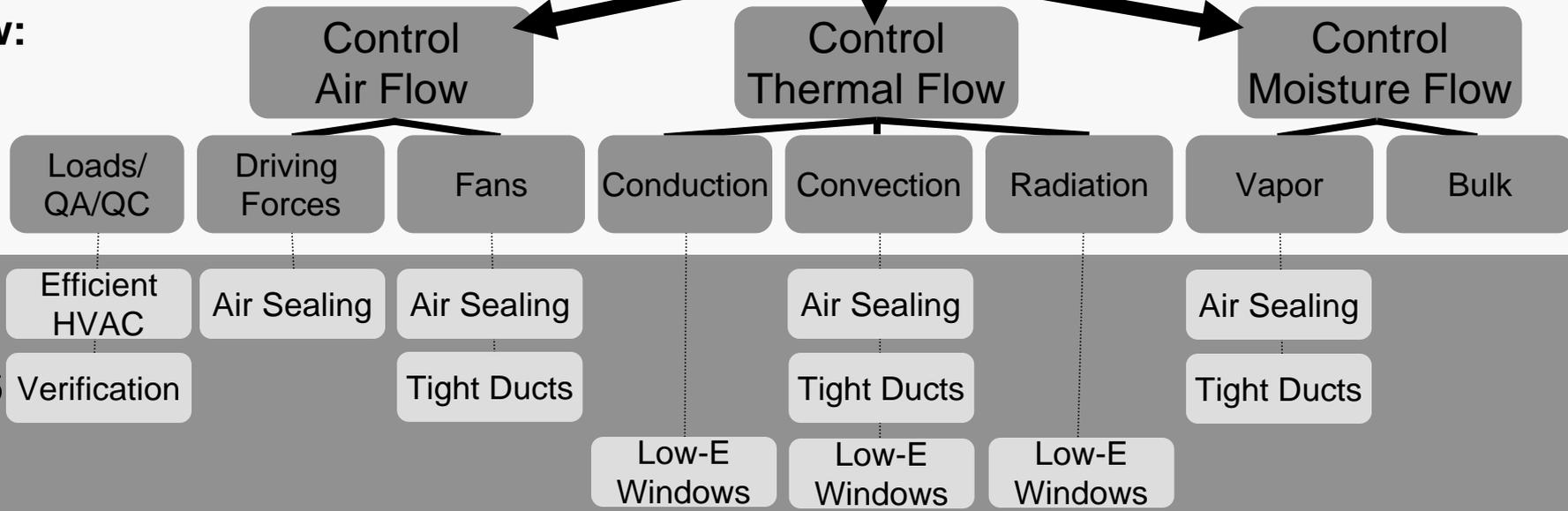
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How:



1996

In 1996, the first specification was introduced. Low hanging fruit was addressed here.

METHOD TO ENERGY STAR MADNESS

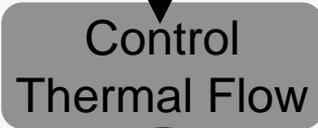
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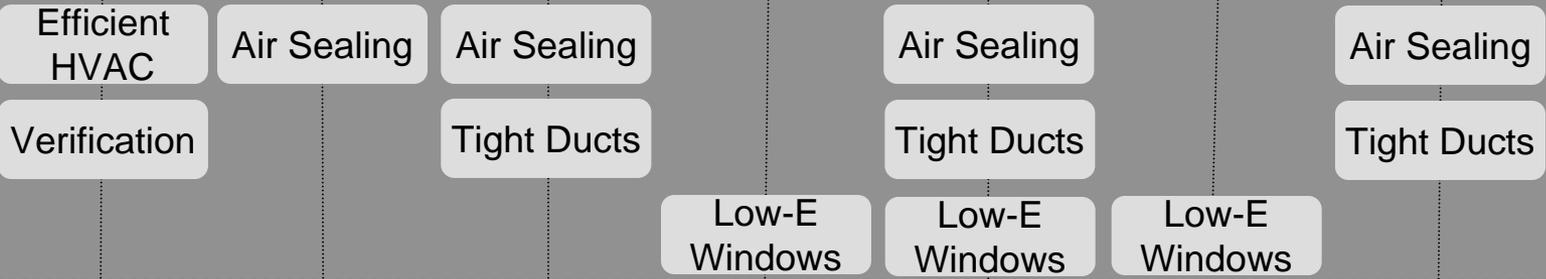


Better Home
Lower Cost
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How:



1996



2006



10 years later, EPA updated the specifications in response to changes in building codes and equipment standards, while reflecting information gathered during first specification. The biggest changes were to require complete air barriers and insulation alignment, right-sizing of cooling equipment, and more efficient appliances.

METHOD TO ENERGY STAR MADNESS

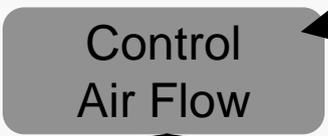
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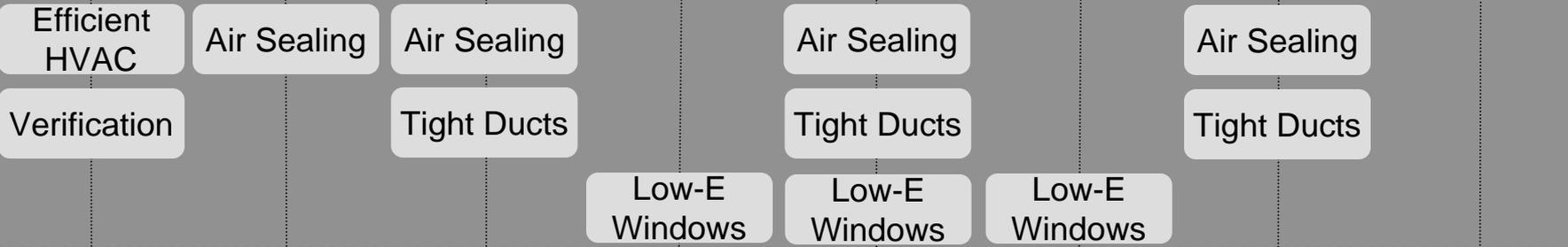


Better Home
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How:



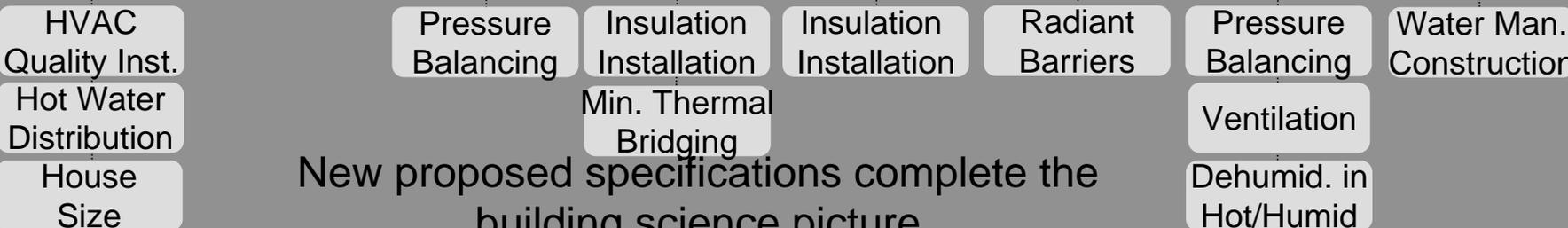
1996



2006



2011



New proposed specifications complete the building science picture.

METHOD TO INDOOR airPLUS MADNESS

Why:

< Risk of IAQ Problems
 Trivial Extra Cost

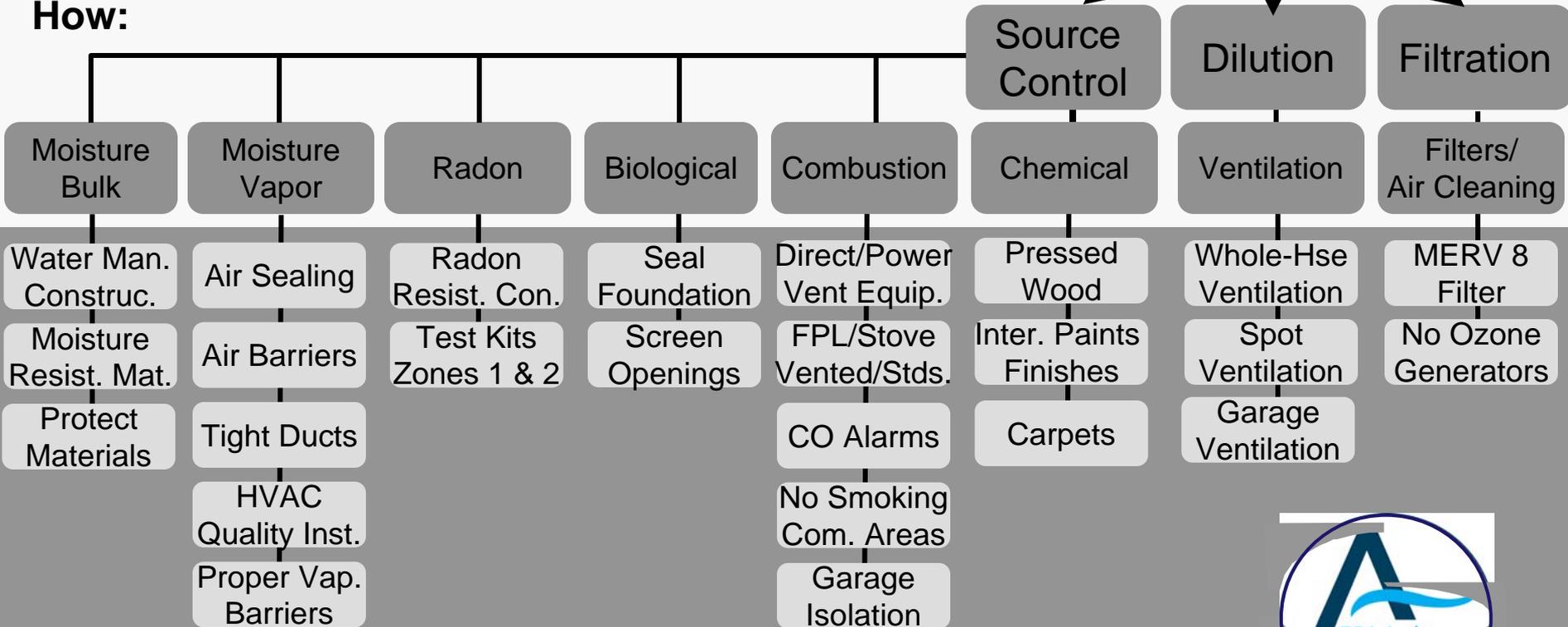
=

< Risk
 > Customer Satisfaction
 > Differentiation

=



How:



What:

Complementary EPA program to ENERGY STAR that addresses indoor air quality



ENERGY STAR QUALIFIED HOMES PROPOSED 2011 SPEC

KEY GOALS/SOLUTIONS



Why is EPA proposing new specifications?

<i>Goal</i>	<i>Solution</i>
Ensure comprehensive building science approach	▪ Additional Mandatory Requirements

ENERGY STAR QUALIFIED HOMES PROPOSED 2011 SPEC

KEY GOALS/SOLUTIONS



<i>Goal</i>	<i>Solution</i>
Ensure comprehensive building science approach	<ul style="list-style-type: none">▪ Additional mandatory requirements
Ensure high-efficiency equipment and products more consistently included	<ul style="list-style-type: none">▪ Additional Mandatory Requirements▪ Reference Design vs. Fixed HERS Score

The Reference Design specifications are used for HERS software evaluations, which establishes a unique HERS Index Target threshold for each home as opposed to a fixed HERS Index threshold.

ENERGY STAR QUALIFIED HOMES PROPOSED 2011 SPEC
KEY GOALS/SOLUTIONS



<i>Goal</i>	<i>Solution</i>
Ensure comprehensive building science approach	<ul style="list-style-type: none"> ▪ Additional mandatory requirements
Ensure high-efficiency equipment and products more consistently included	<ul style="list-style-type: none"> ▪ Additional mandatory requirements ▪ Reference design vs. fixed HERS Score
Enhance quality control of verification process	<ul style="list-style-type: none"> ▪ Additional Mandatory Checklists

EPA observed that the thermal bypass checklist was very effective at ensuring consistent quality control of key air barrier details. The five new checklists allow for accountability for particular details.

ENERGY STAR QUALIFIED HOMES PROPOSED 2011 SPEC

KEY GOALS/SOLUTIONS



<i>Goal</i>	<i>Solution</i>
Ensure comprehensive building science approach	<ul style="list-style-type: none">▪ Additional mandatory requirements
Ensure high-efficiency equipment and products more consistently included	<ul style="list-style-type: none">▪ Additional mandatory requirements▪ Reference design vs. fixed HERS Score
Enhance quality control of verification process	<ul style="list-style-type: none">▪ Additional mandatory checklists
Reduce carbon emissions from bigger homes	<ul style="list-style-type: none">▪ Size Adjustment Factor

Size Adjustment Factor requires larger homes to do more to qualify.

ENERGY STAR QUALIFIED HOMES PROPOSED 2011 SPEC

WHY CHANGE FIXED HERS SCORE?



- ***Technical Challenge***
- ***Built-in Flexibility***
- ***Savings More Accurately Depicted***

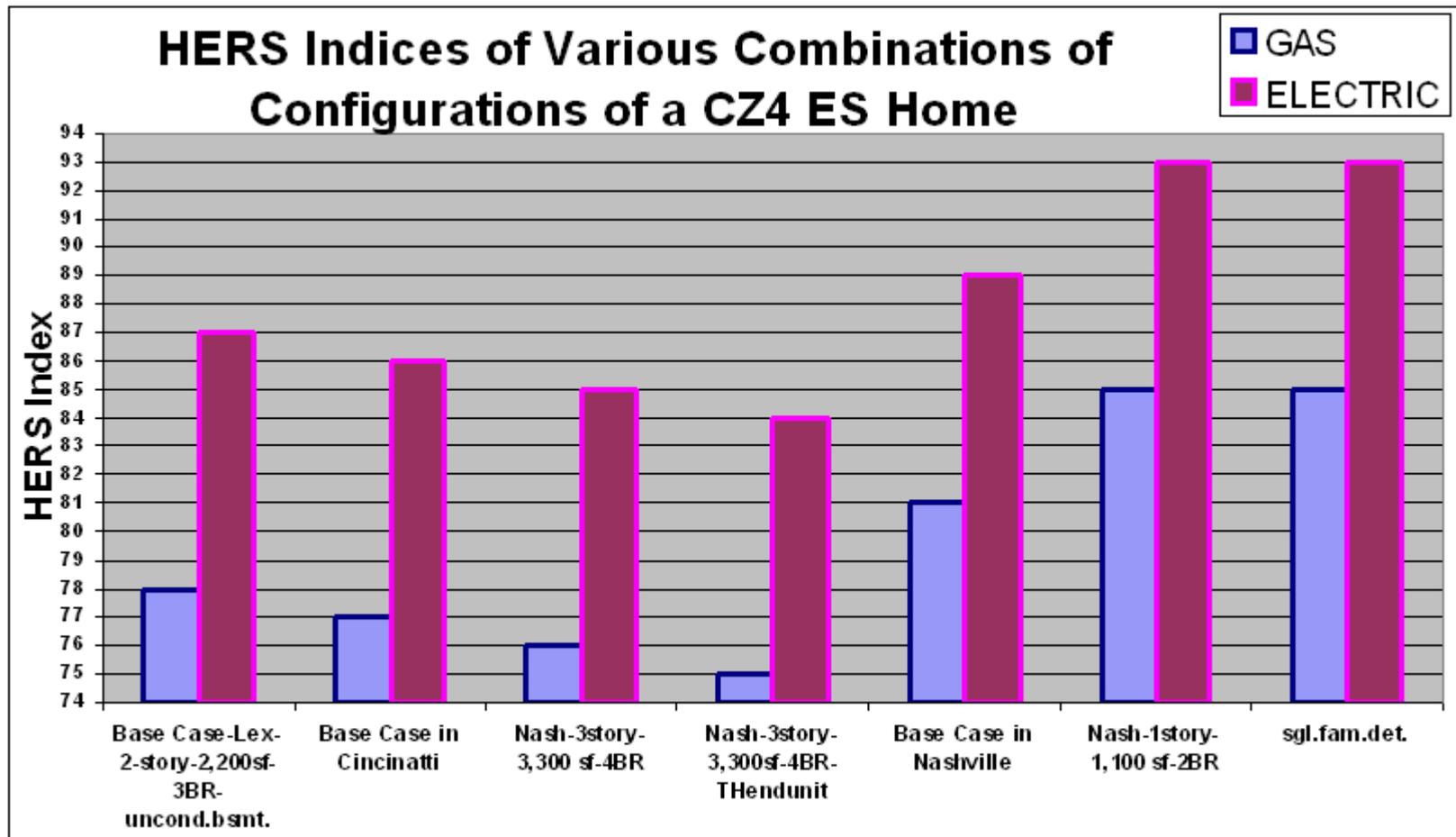
One of the most significant changes is the Reference Design concept. There is a technical challenge to come up with a single score to ensure a targeted bundle of technologies. Moving away from a fixed score can add flexibility for builders. The fixed score did not take into account other requirements; with the Reference Design concept, the savings will be more accurate.

ENERGY STAR QUALIFIED HOMES PROPOSED 2011 SPEC FACTORS AFFECTING HERS SCORE



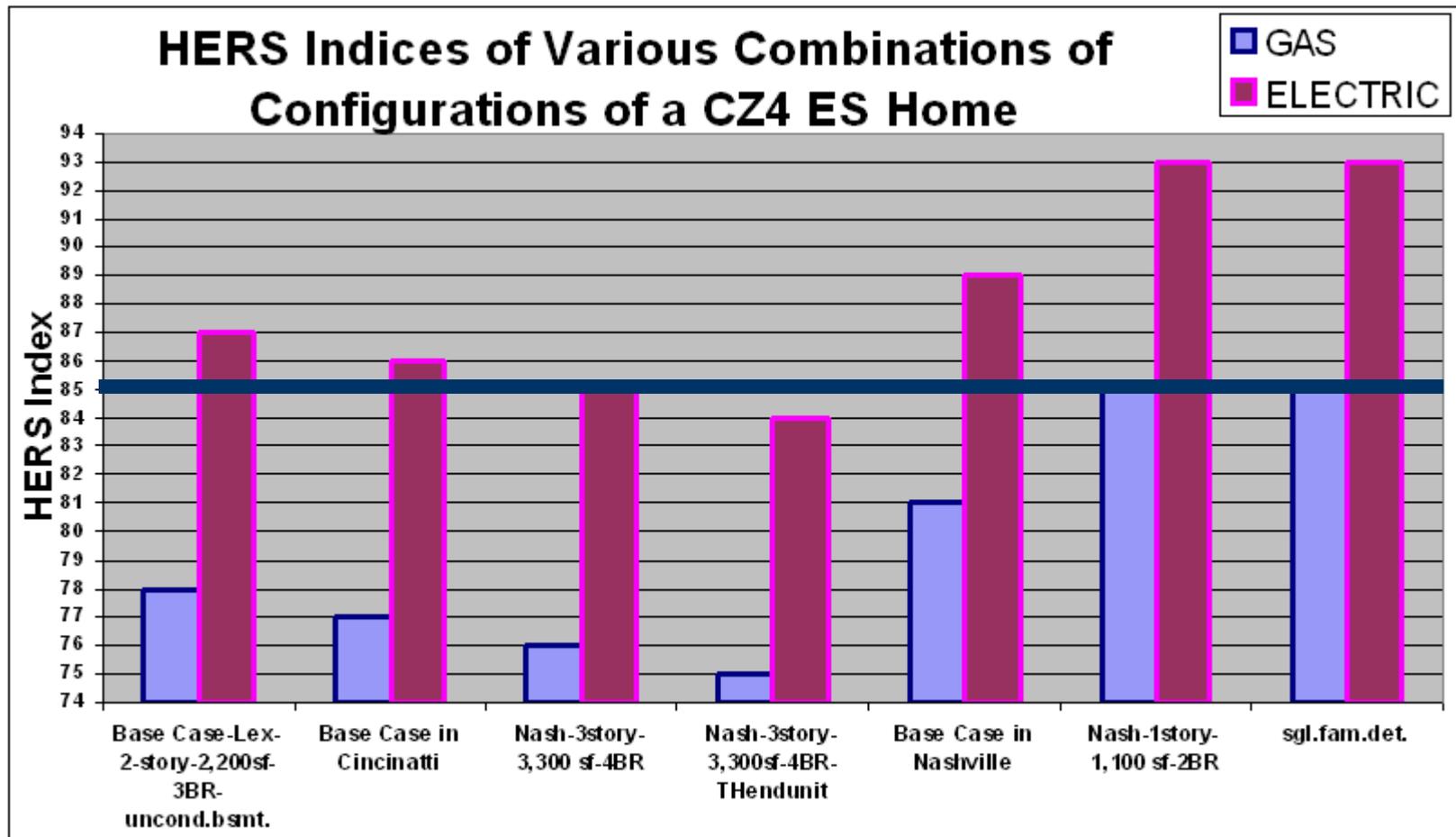
- *Size*
- *# Bedrooms*
- *Location within Given Climate Zone*
- *Aspect Ratio*
- *Foundation Type*
- *Attached vs. Detached*
- *Fuel Type*

ENERGY STAR QUALIFIED HOMES PROPOSED 2011 SPEC: TECHNICAL CHALLENGES



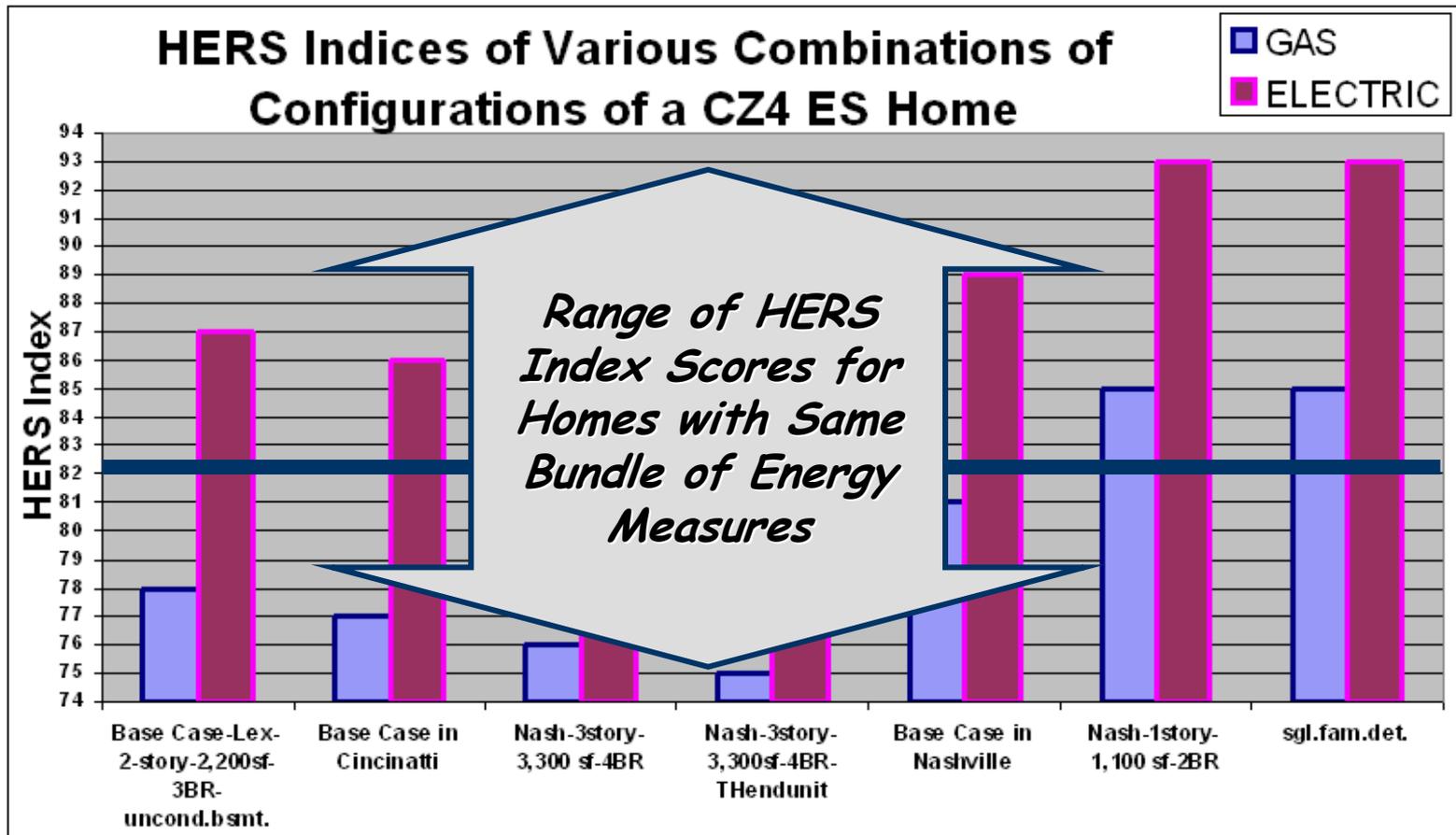
The HERS index can vary significantly when these factors change.

ENERGY STAR QUALIFIED HOMES PROPOSED 2011 SPEC: TECHNICAL CHALLENGES



With this example, requiring a HERS index of 85 is a technical challenge.

ENERGY STAR QUALIFIED HOMES PROPOSED 2011 SPEC: TECHNICAL CHALLENGES



In summary, the indexes can vary significantly depending on some factors. The Reference Design concept strives to address these variations.