

# ENERGY STAR QUALIFIED HOMES: Making Sense of It All

Presented by:  
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# ENERGY STAR Core Principles

- **Protect the Environment**

through superior energy efficiency

- **No Tradeoffs**

in performance or quality

- **Cost Effective**

(cash-flow, investment return, resale value)

- **Source of Authority**

government backed label providing valuable, unbiased information

- **Binary**

(Y/N; Tiers relinquishes 'brand' asset to uncontrolled sales force)

## Distant Past: 1995 Observations

- Very Leaky Ducts
- Inconsistent Air Tightness
- Minimal Use of Low-E Windows
- Spotty Use of Efficient Equipment
- Poor Quality Control Systems
- No Sales Infrastructure

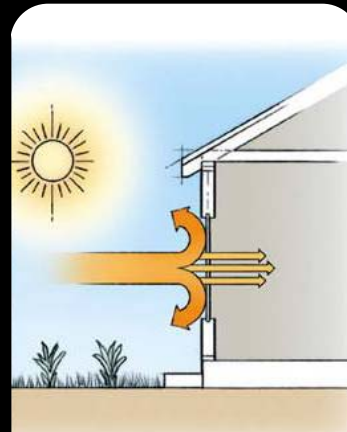
# Distant Past: Old ENERGY STAR Spec



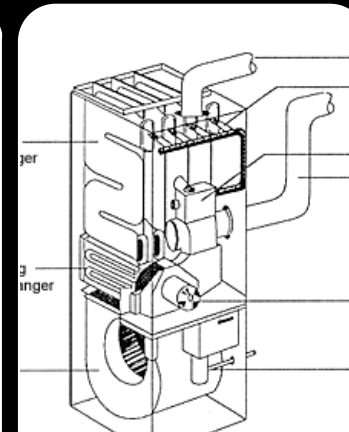
Tight  
Ducts



Air  
Sealing



Advanced  
Windows



Efficient  
Equipment



Field  
Verified

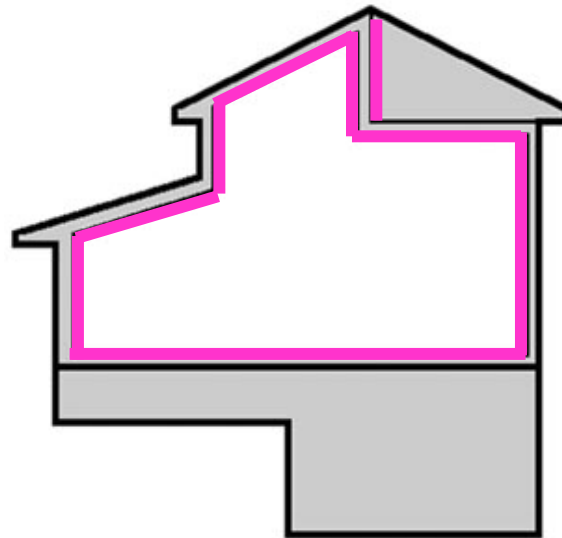
## Recent Past: 2005 Observations

- Stronger Energy Codes
- Thermal Envelopes Failing
- Bigger is Better
- Still No Sales Infrastructure

# Present: New ENERGY STAR Spec



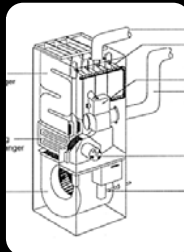
Insulation  
Installation



Thermal Bypass



Right Sizing



Reference to  
2004 IRC

# What is ENERGY STAR Qualified Homes?

## System Features:

- ENERGY STAR
- Lower Cost
- Quality
- Peace-of-Mind
- Envir. Protection

- Air Sealing
- Tight Ducts
- Complete Air Barrier

**Control  
Air Flow**

- Air Sealing
- Tight Ducts
- Complete Air Barrier
- Right-Sized AC

**Control  
Moisture Flow  
(Vapor, Bulk)**

*High-  
Performance  
Homes*

- Air Sealing
- Tight Ducts
- Complete Air Barrier
- Proper Insulation
- Advanced Windows
- Efficient Equipment

**Control  
Thermal Flow**

# Present: 2007 Observations



In the world of energy efficient homes...  
metrics are flawed...

## Myth does not match Reality



# Flawed Metrics

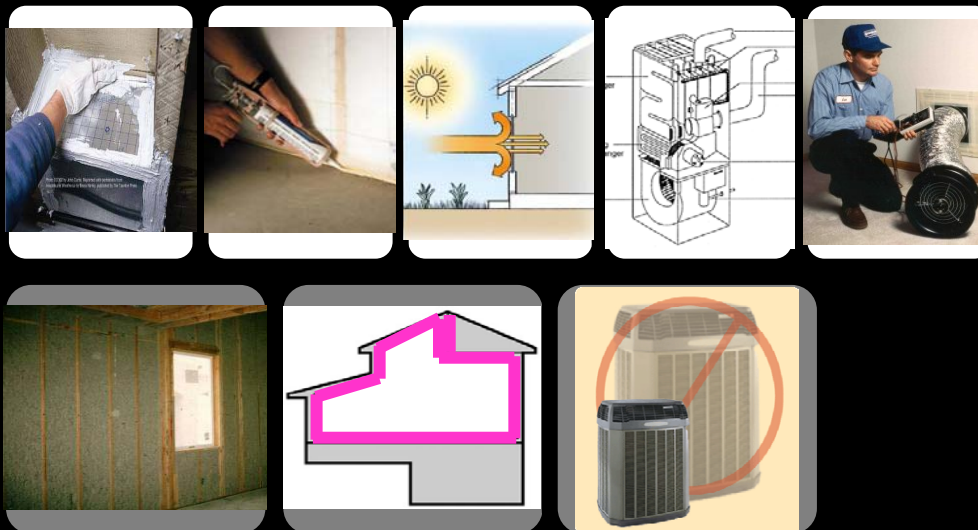
- ASHRAE 62.2
- Insulation R-Value
- SEER
- AFUE
- Water Heater Energy Factor
- Lighting Watts
- Square Feet
- Code

Future:  
ENERGY STAR for Homes



Respond to Myths...

# EPA Indoor Air Plus



## Source Control

- Moisture
- Radon
- Biological
- Combustion
- Chemical



Ventilation



Filtration



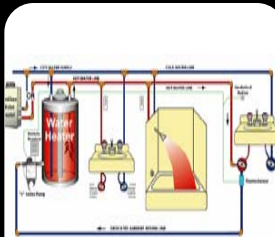
# Future: ENERGY STAR Spec



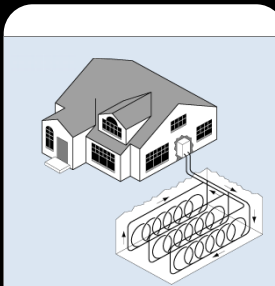
Thermal Bridging



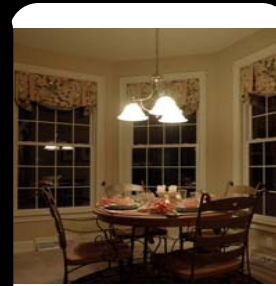
HVAC System



Water Distrib.



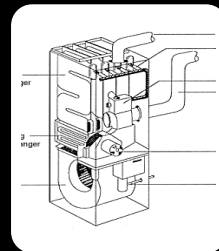
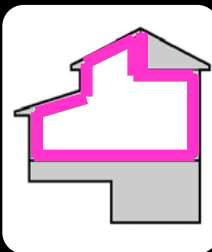
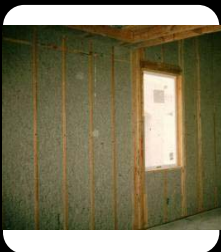
High Eff. Equip.



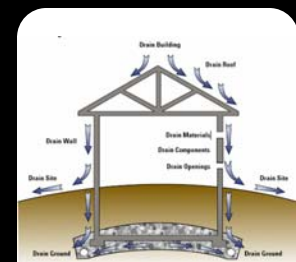
Lighting/ App.



Size



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Moisture Control

# Future: EPA 'Green' Bundle



## Energy Efficiency

- Envelope
- Distribution
- Equipment
- Lighting
- Appliances

**ENERGY STAR**

## Indoor Environment

- Bulk Moisture
- Radon
- Pest Control
- HVAC
- Combust. Safety
- Materials

**EPA Indoor Air Plus**

## Resource Efficiency

- Water
- Materials
- Waste

**EPA Water Sense**

# Future: EPA 'Green' Bundle

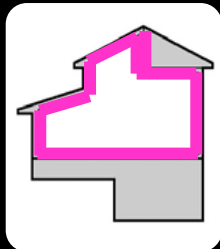




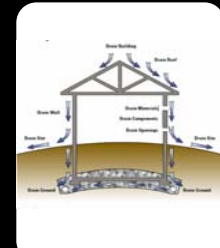
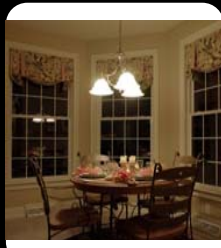
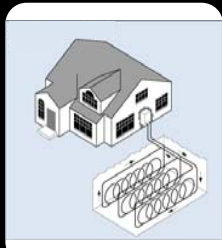
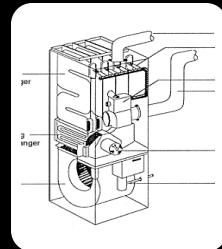
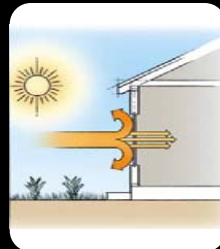
# Future: Carbon Neutral Home



## ENERGY STAR Future Spec



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For More Information:



On the Web at:

<http://www.energystar.gov/homes>

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