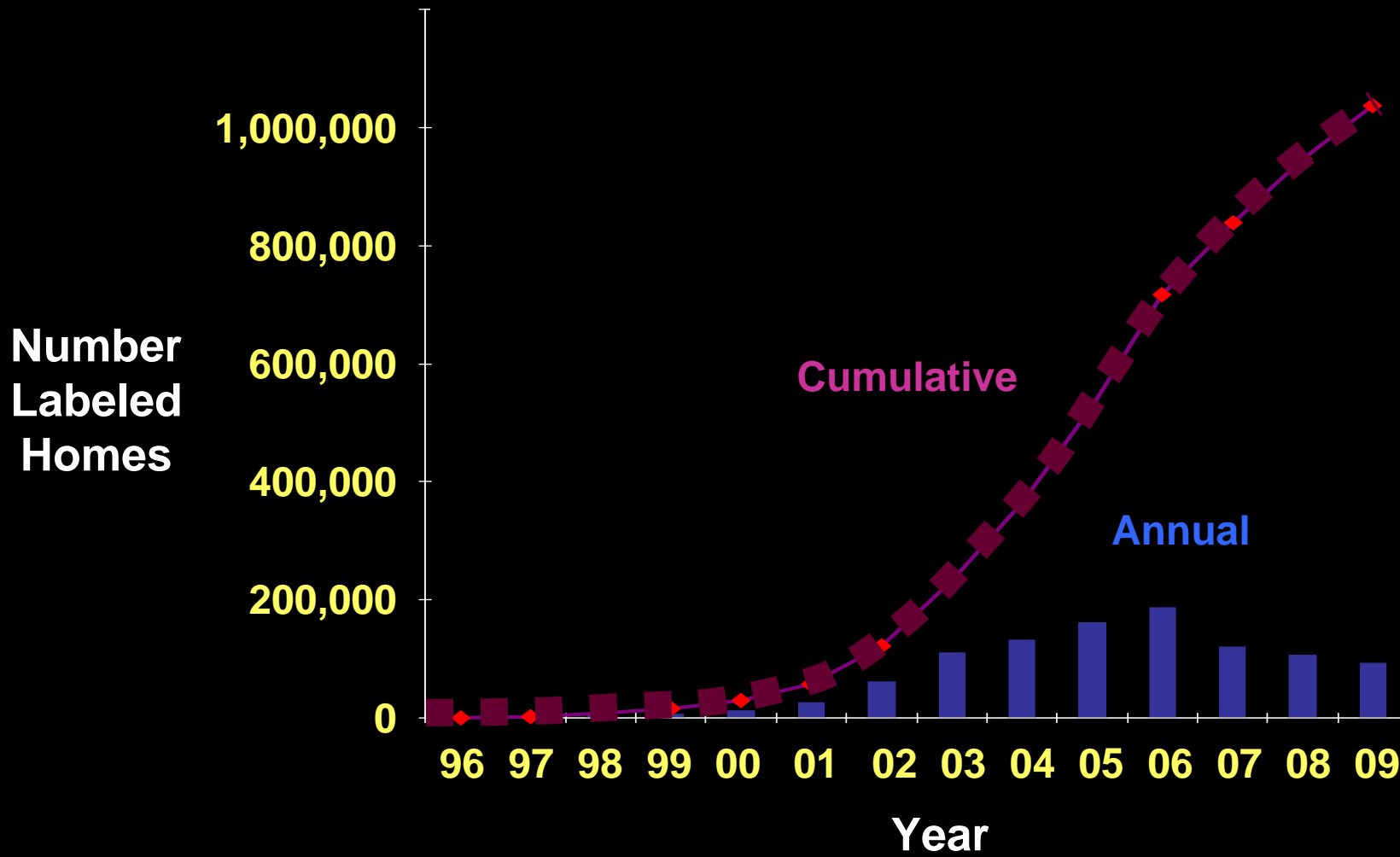




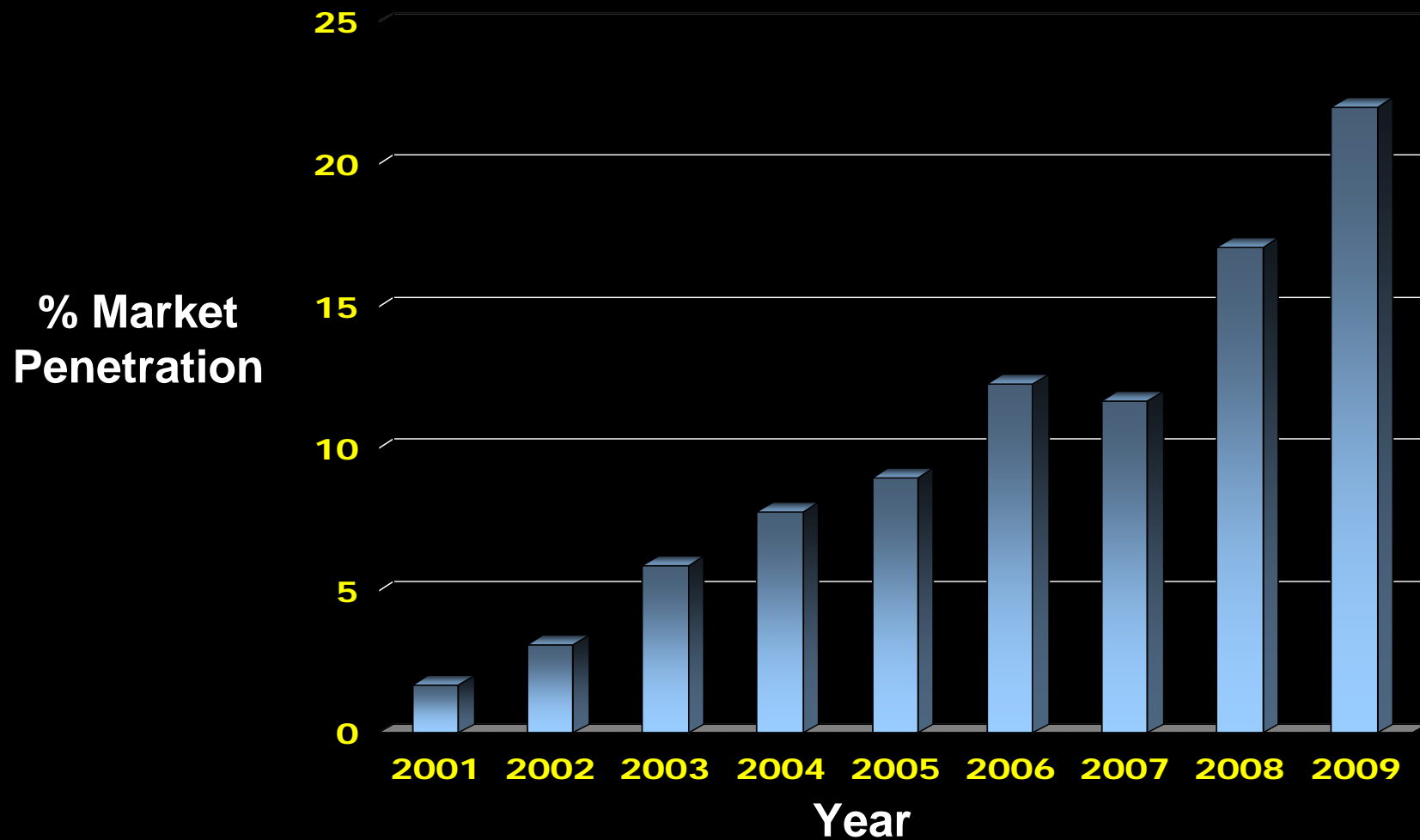
# **ENERGY STAR**

## **In the World of Green**

# ENERGY STAR FOR HOMES GROWTH THE ROAD TO ONE MILLION HOMES



# ENERGY STAR FOR HOMES GROWTH ONE IN FIVE HOMES IN 2009



# CONTEXT: ENERGY STAR vs. GREEN



**ENERGY STAR  
for Homes**

**Green Programs  
for Homes**

**Voluntary**

**Recognizes Builders**

Label

Web Site, Marketing, Awards



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**ENERGY STAR  
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Web Site, Marketing, Awards

**Defines Efficient**

Rigorous Specifications

Third-Party Verified

**Offers Flexibility**

Points

Multiple Tiers

# 'GREEN' BEGINS WITH 'BLUE'



## Energy Efficiency

- Air Flow
- Thermal Flow
- Moisture Flow
- Equipment



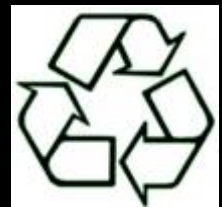
## Indoor Environment

- Source Control
- Ventilation
- Filtration



## Resource Efficiency

- Water
- Materials
- Waste
- Recycling
- Land
- Renewables



# ENERGY STAR Homes That Work



Control Air Flow	Control Thermal Flow	Control Moisture Flow Vapor Bulk	Efficient Equipment	3 <sup>rd</sup> Party Verification
Air Sealing	Air Sealing	Air Sealing	Efficient HVAC	Inspect Features
Tight Ducts	Tight Ducts	Tight Ducts		Test Infiltration
	Insulation R-Value			Test Duct Leakage
	Low-E Windows			
Air Barriers	Air Barriers	Air Barriers	Efficient WH System	Thermal Bypass Chk
	Insulation Alignment	Right-Sizing	Efficient Lgtg./Appl.	Thermal Enclos. Chk
Pressure Balancing	Insulation Installation	Ventilation	HVAC Quality Inst.	HVAC Sys. QI Chk
	Min. Thermal Bridging	Dehumid. in Hot/Humid	Water Man. Construction	Water Man. System Chk
		Building Materials		



2006  
V.2



2011  
V.3

# ENERGY STAR Qualified Homes V.3

Your home has been constructed to U.S. EPA's latest strict guidelines for energy efficiency including these building science features:



## Thermal Enclosure

- Code or Better Insulation R-Value
- RESNET Grade 1 Insulation Installation
- Air-Tight Construction
- Comprehensive Air Barrier Assemblies
- Reduced Thermal Bridging
- High-Performance Windows

## HVAC System

- Efficient Heating and Cooling Equipment
- Engineered Sizing of Equipment and Ducts
- Air-Tight Ducts
- Verified Proper Duct Installation
- Verified Proper Refrigerant Charge
- Whole-House Ventilation
- Spot Ventilation
- MERV 6 Filter

## Water Protection

- Heavy Membranes at Valleys and Eaves
- Complete Roof Flashing Details
- Complete Wall Drainage Plane
- Pan Flashing at all Doors and Windows
- Fabric Filter at Foundation Drain
- Capillary Break Under Foundation

# ENERGY STAR Qualified Homes V.3

## What Label Means



- Significantly > Energy Efficiency than Code
- Complete Systems
- Credible

# ENERGY STAR HOME ENERGY YARDSTICK



**ENERGY STAR Home Energy Yardstick**  
**WHAT'S YOUR SCORE?**

Compare your household's energy use to others across the country and get recommendations for improvement.

**Your Home**

What is your zip code?

How many people live in your home?

What is the square footage of your home, including the basement?

[More information](#)

**Your Fuel Types**

In addition to electricity, which fuel type(s) does your home use? Select all that apply. **Maximum 2.**

Natural Gas  Propane  
 Fuel Oil  Kerosene

**Your Energy Use**

Would you like to use **annual** or **monthly** billing information to enter your household's energy use? **?**

Annual  Monthly

Select the Start Date for the year covered:

**Enter Totals for the year:**

kWh  dollars  
 CCF or Therms  dollars

**SUBMIT**

- ZIP Code (Proxy for climate)
- Enter # of People
- Enter Square Footage (Include basement if heated and/or cooled)
- Enter fuel types (other than electricity)
- Choose to enter data on annual (totaled) or monthly basis
- Enter start of 12 month billing cycle
- Enter energy use

# ENERGY STAR HOME ENERGY YARDSTICK



LEARN MORE AT  
[energystar.gov](http://energystar.gov)

ENERGY STAR Home Energy Yardstick

## YOUR SCORE

EPA's Home Energy Yardstick compares a household's energy use to similar homes and gives it a score between 0 and 10 (10 being the most energy efficient).



## Yardstick Score: 9.8\*



### Home and Energy Use for:

Address: 1234 Energy Street, Alexandria VA  
 Zip Code: 22301  
 People living in your home: 2  
 Square Footage: 1200  
 Energy Use from 01-Mar-2008 to 28-Feb-2009

Use (Natural Gas)	Bill Amount (Natural Gas)	Use (Electricity)	Bill Amount (Electricity)
291 CCF or Therms	\$0	2,943 kWh	\$0

### How To Improve a Low Score

- ✓ Seal air leaks (or drafts).
- ✓ Add more insulation in the attic.
- ✓ If the HVAC equipment is more than 10 years old, consider replacing with models that have earned the ENERGY STAR.
- ✓ Purchase lighting, appliances, home electronics, and other products that have earned the ENERGY STAR.
- ✓ Hire a professional to evaluate the home's energy efficiency.
- ✓ Visit [energystar.gov/homeadvisor](http://energystar.gov/homeadvisor) for more ways to improve efficiency and comfort.

\* How you operate or use your home may lower your score. Activities and Equipment that often impact a household's score include: a home office or home business, swimming pool, spa, sauna, pottery kiln, or well pump, as well as a thermostat setting above 72°F for heating or below 76° for cooling.

# New Homes Label Challenge



- Account for Size
- Don't Block Innovation
- Don't Block Best Practices
- Motivate Good Behavior

# ENERGY STAR Buildings Accomplishments



- **110,000 Buildings Rated**  
(15 Billion SF)
- **~3,000 ES Challenge Commitments**  
(16 Billion SF)
- **8,700+ ES Labeled Buildings**  
(1.5 Billion SF)

# ENERGY STAR Buildings

## What Portfolio Manager Score Means



- Empirical Energy Use Comparison for Same Building Type
- Operational Score

# ENERGY STAR Buildings

## What ENERGY STAR Label Means



- Top 25% Most Efficient Buildings
- No Correlation Between Code and Green

# Comm. Bldgs. Label Challenge



- Correlation Above Code Performance with Actual Energy Consumption
- Impact Good Operational Behavior

# HOW TO GET MORE INFORMATION

**On the Web at:**

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