



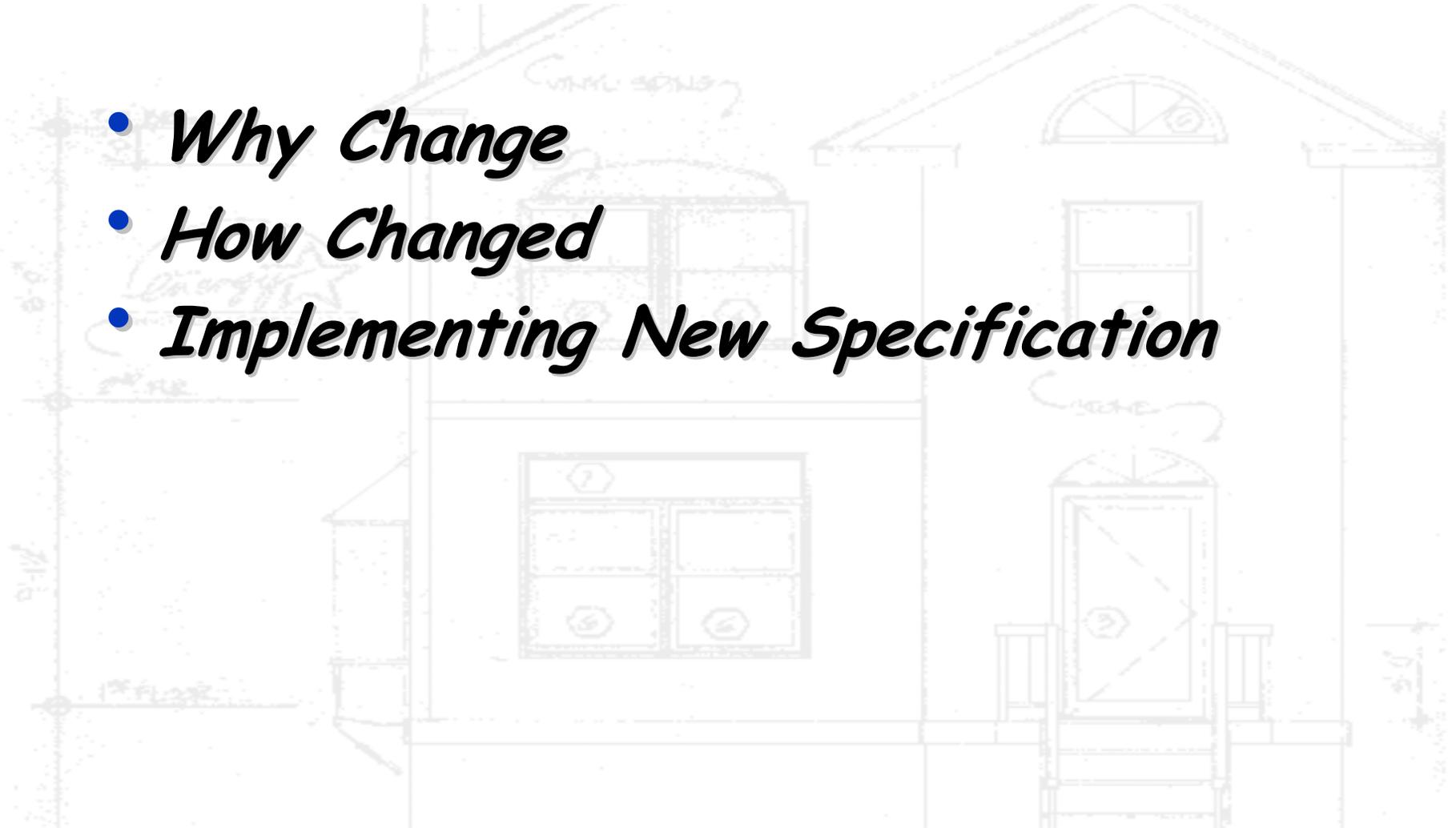
# ***ENERGY STAR Qualified Homes***

***David Lee***  
***US Environmental Protection Agency***

# OUTLINE



- *Why Change*
- *How Changed*
- *Implementing New Specification*



WHY CHANGE?  
ENERGY STAR GROWING BRAND



**60%+** *awareness in 2004*

**70%+** *households would recommend*

**95%** *likely to buy again in future*

# WHY CHANGE? BRAND PROMISE



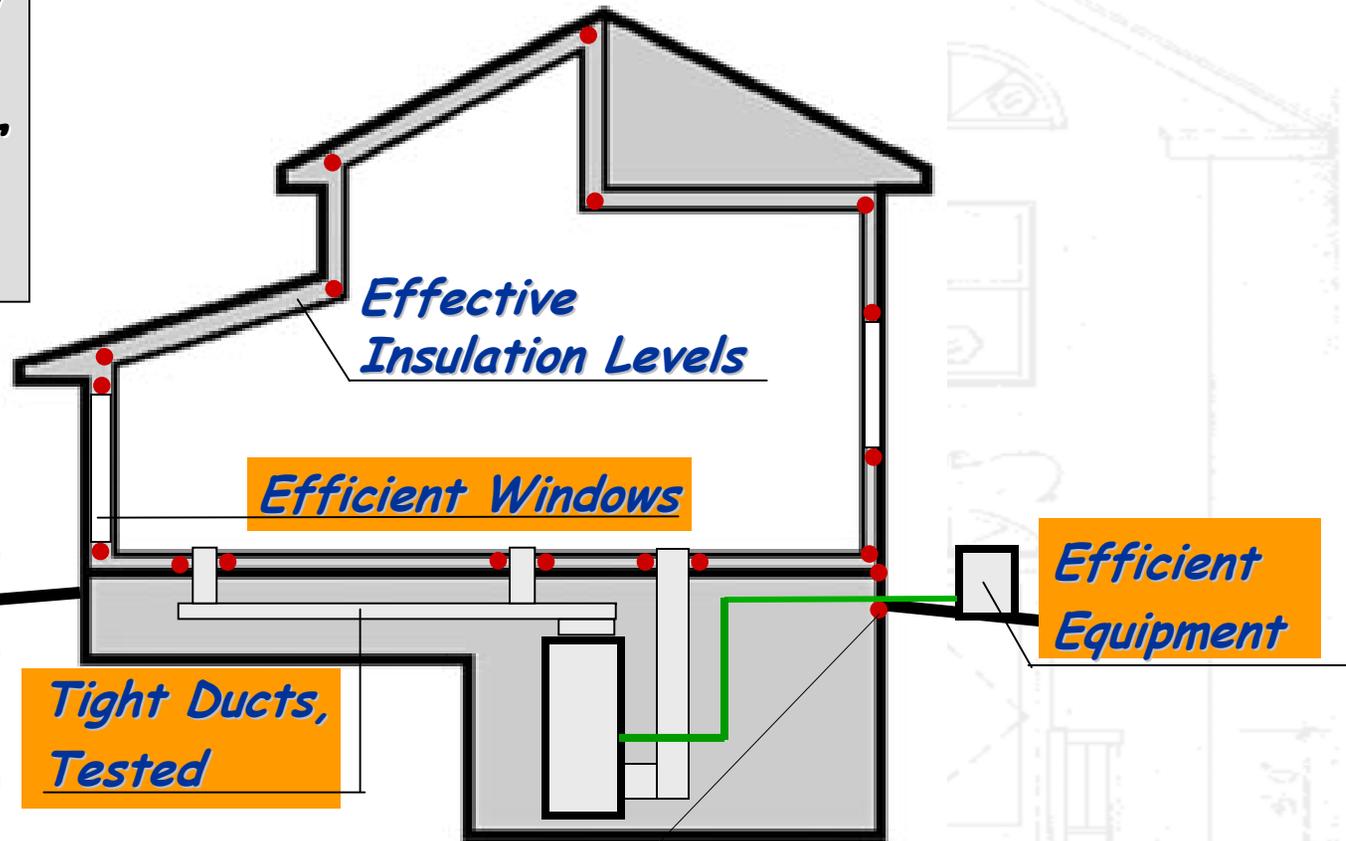
- *Much greater efficiency than code*
- *Third-party verification*
- *Performance advantage*



# WHY CHANGE? WHAT OLD SPEC DELIVERED...



*HERS 86 and  
15% greater  
than code, or  
equivalent  
package...*



*Tight Ducts,  
Tested*

*Efficient Windows*

*Efficient  
Equipment*

*Effective  
Insulation Levels*

*Build it Tight, Tested*

## WHY CHANGE? EXTERNAL FORCES



- *Increased adoption of International Energy Conservation Code (IECC)*
- *HERS Guidelines Reference Home to IECC*
- *NAECA increase*
- *Lack of quality control:*
  - *insulation installation*
  - *air barrier details*
  - *HVAC best practices (e.g., sizing, balancing)*
  - *moisture control*









*Courtesy of Advanced Energy*

# WHY CHANGE? WHY RAISE THE BAR?



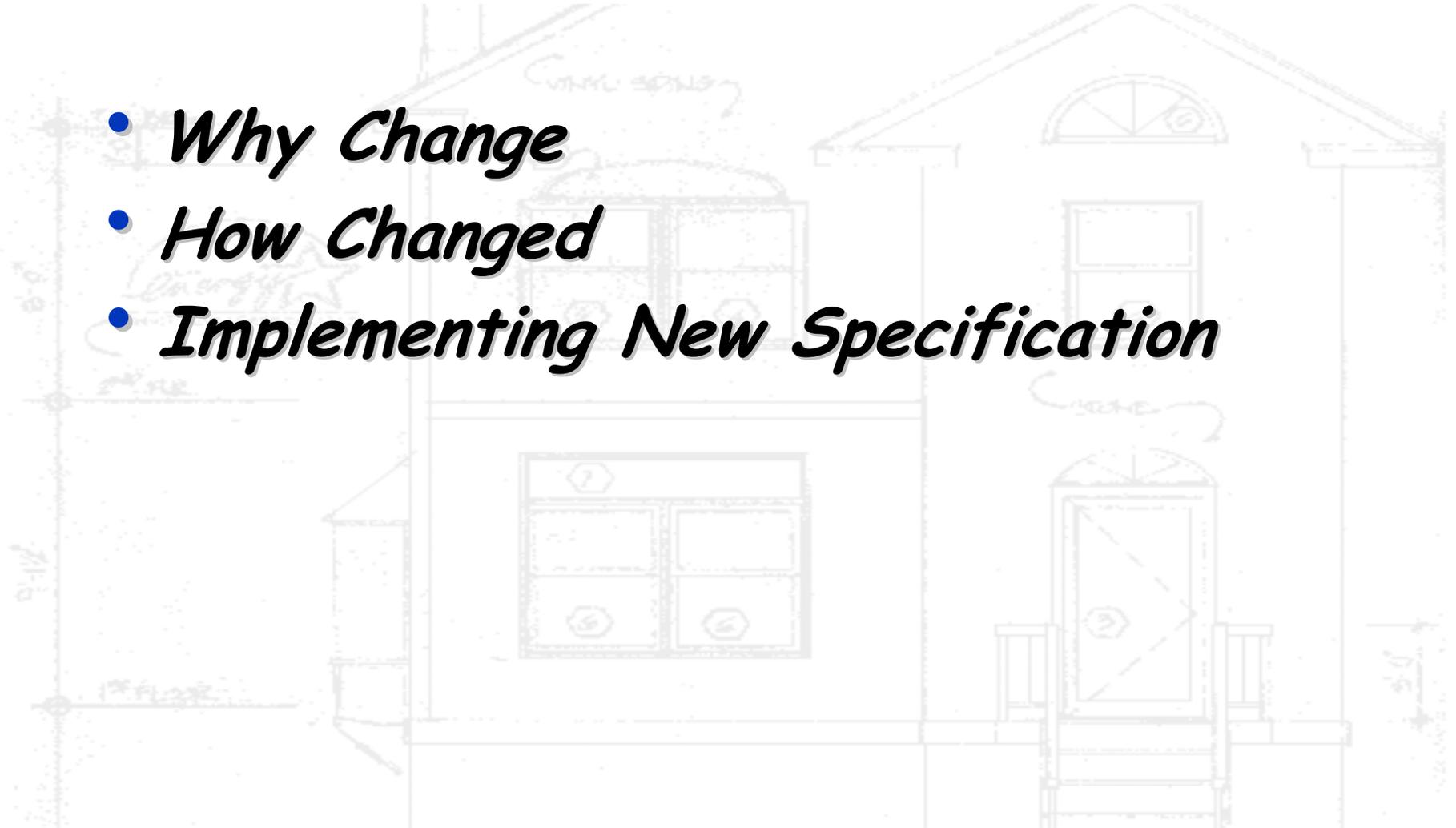
- *Assure greater efficiency than code*
- *Enhance third-party verification*
- *Assure performance advantage*



# OUTLINE



- *Why Change*
- *How Changed*
- *Implementing New Specification*

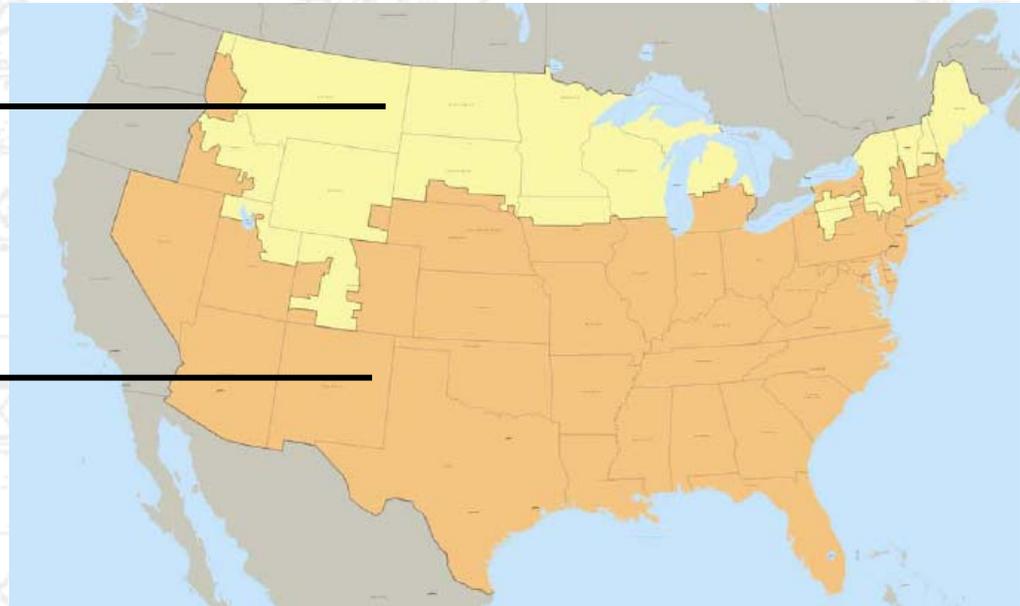


# HOW CHANGED? PERFORMANCE PATH



## *HERS Index Threshold:*

- *80 in North*
- *85 in South*



## *Note:*

*Exceptions are CA, OR, WA, HA and Manufactured Housing*

# HOW CHANGED? PERFORMANCE PATH REQUIREMENTS



- *Insulation inspection for full R-value*
- *Thermal Bypass Inspection Checklist*
- *Leakage less than 6 cfm to outdoors/100 sq. ft.*
- *Minimum 1 ENERGY STAR Product category*
- *Max. 20% screw-in CLF light sockets*
- *"Right-sized" cooling equipment*
- *Programmable thermostats with heat pumps must have "Adaptive Recovery"*

# HOW CHANGED? PRESCRIPTIVE PATH: BOP



*ENERGY STAR Qualified  
Lighting, Fans, or  
Appliances*



*IECC Insulation  
Properly Installed*

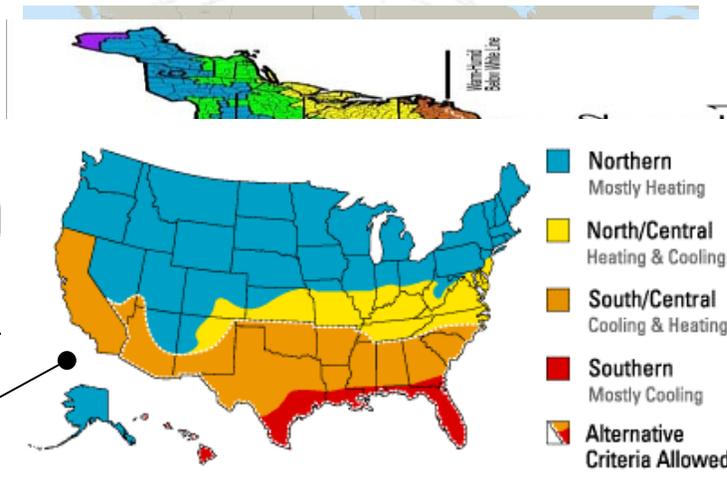
*Continuous Air Barrier*

*ES Qualified Windows*

*Tight Ducts,  
Tested*

*Eff. Water Htr.*

*Build it Tight, Tested*



*Heating/Cooling  
Right-Sized ES Equip.*

**Note:**  
*Exceptions are CA, OR,  
WA, HA, and Man. Hsg.*

HOW CHANGED?

# ADDRESS INSULATION VALUE KILLERS



- *Gaps*
- *Voids*
- *Compression*

*Insulation  
Installation  
Inspection*

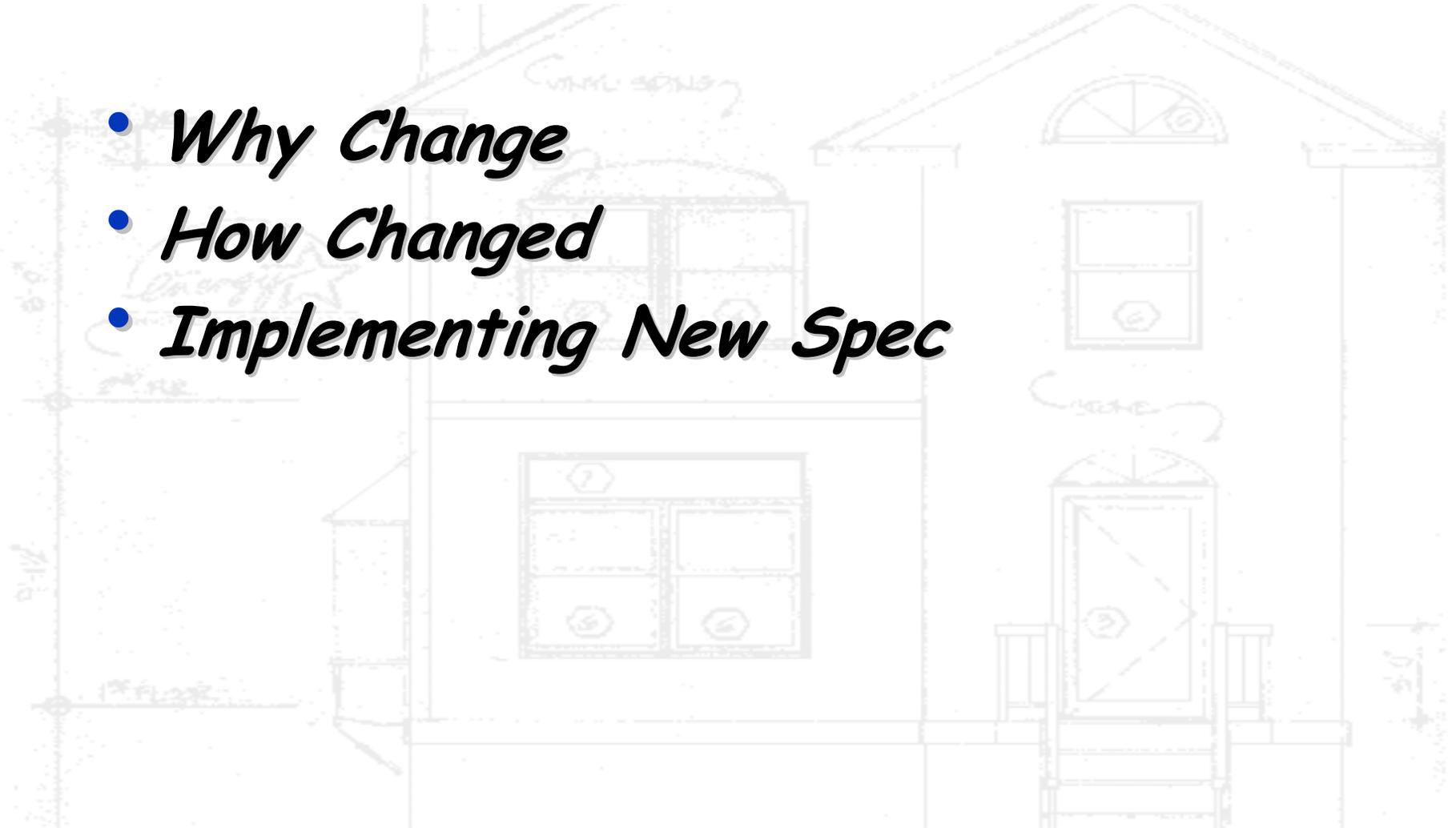
- *Incomplete Air Barrier*
- *Misalignment with Air Barrier*
- *Wind Intrusion*

*Thermal  
Bypass  
Checklist*

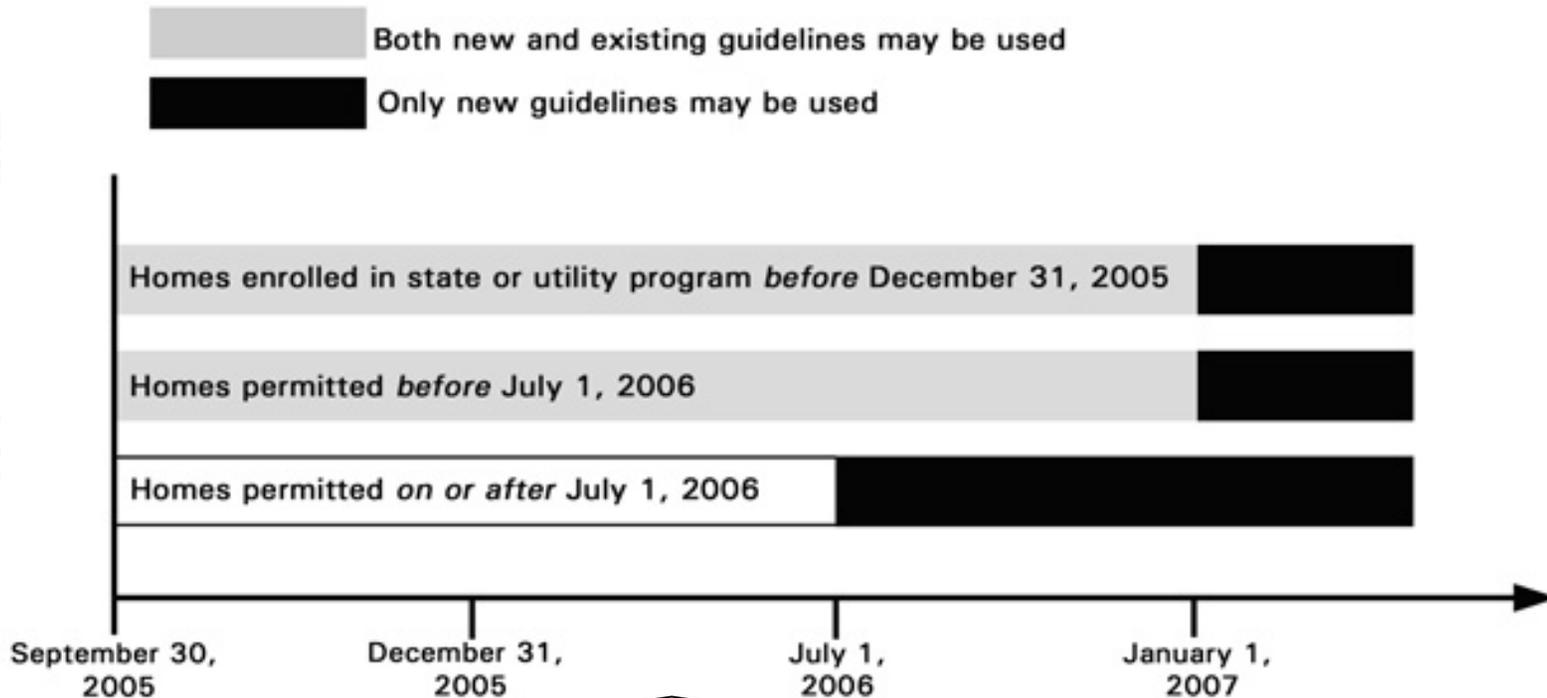
# OUTLINE



- *Why Change*
- *How Changed*
- *Implementing New Spec*



# IMPLEMENTING NEW SPEC NEW SCHEDULE



*Thermal Bypass Checklist Guide*

*In other words, every home completed after 12/31/06  
must use new spec*

# OUTLINE



- *Why Change*
- *How Changed*
- *Implementing New Spec*



# A CHANGING WORLD: ENERGY COST AWARENESS



ca@ecartoons.com  
-latoons@telos.net



# A CHANGING WORLD: WHO WILL BE PREPARED?

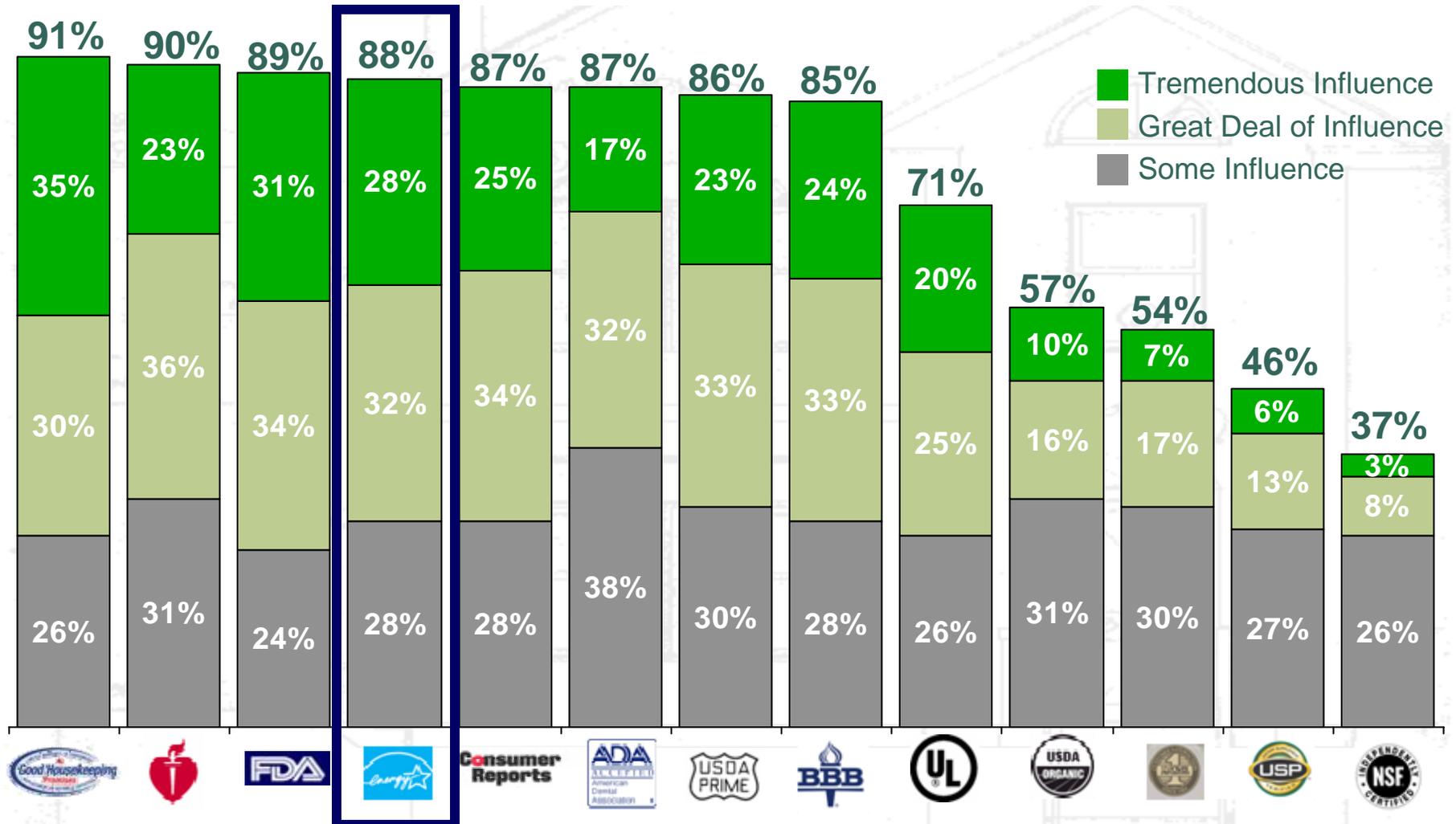


## Small Cars in Focus As Gas Prices Rise

By MATT MOORE  
The Associated Press  
Tuesday, September  
13, 2005; 11:52 AM  
Power Information  
Network expects the  
number of compacts  
and sub-compacts on  
the U.S. market grow  
to grow from 33 this  
year to 40 in 2010.



# A CHANGING WORLD ENERGY EFFICIENT IS EASY TO FIND



Source: Fairfield Research, May 2003

# A CHANGING WORLD: INCREASED BUILDING DIAGNOSTICS



# A CHANGING WORLD DEFECTS NO LONGER HIDDEN



# A CHANGING WORLD: GROWING QUALITY AWARENESS



## *JD Powers and Assoc. 2005 Builder Quality Rankings*

Market	2005		
<b>Major Market Total</b>	<b>112</b>		Raleigh/Durham 113
			Seattle/Tacoma 113
 Austin	122	 Denver/Colorado Springs	111
 Orange County (CA)**	122	 San Diego	111
 Sacramento	120	 San Francisco Bay Area	111
 Houston	118	 Portland*	109
 Tucson	118		Atlanta 108
 Dallas/Ft. Worth	117	 Detroit	108
 Los Angeles/Ventura Counties**	116		Ft. Myers/Naples 108
 Minneapolis	116		Palm Beach 107
		 Baltimore*	106
			Albuquerque* 104
		 Orlando	104
 Phoenix	114	 Washington, D.C.	104
 Inland Empire (CA)**	113	 Philadelphia	101
 Las Vegas	113		Jacksonville 98

A CHANGING WORLD:  
SMARTER CONSUMERS



**80%**

*of New Homes Buyers use the Web  
before purchasing a new home*

**A CHANGING WORLD:  
INCREASED LIABILITY**



***Liability insurance is  
scarce and expensive***

***"If you deliver a safe, durable and efficient  
home, you typically won't be sued."***

***Stan Luhr, Risk Auditor***

# HOW TO GET MORE INFORMATION



*On the Web at:*  
*<http://www.energystar.gov/homes>*

