

NEW JERSEY



Embracing the Version 3 Transition in Program Design

EPA ENERGY STAR Homes Utility Sponsor Meeting 2011

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VP Program Development
MaGrann Associates



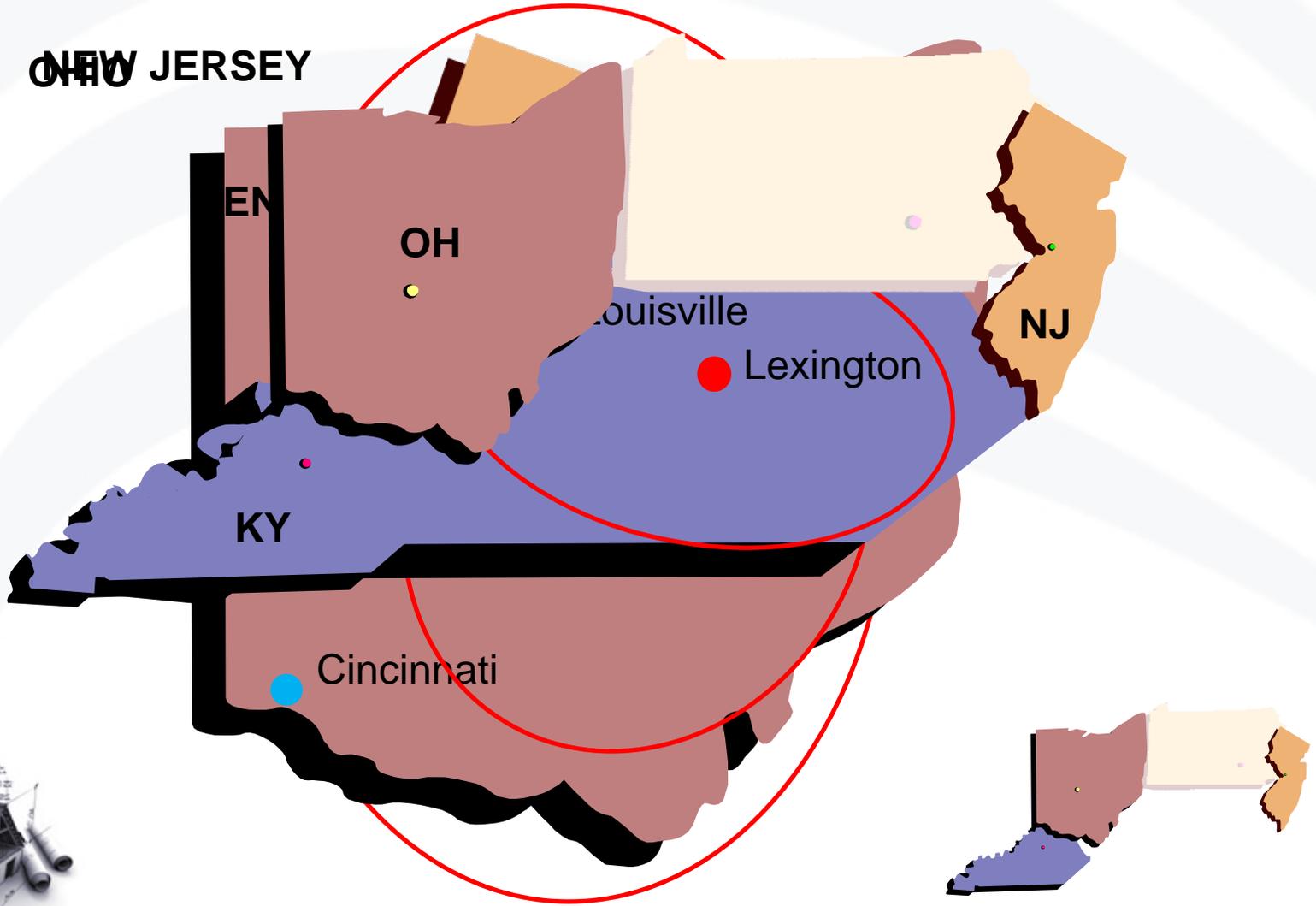
Introduction

- ➔ Market context
- ➔ Program overview
- ➔ Transitional program design
- ➔ Challenges
- ➔ Responses/discussion points

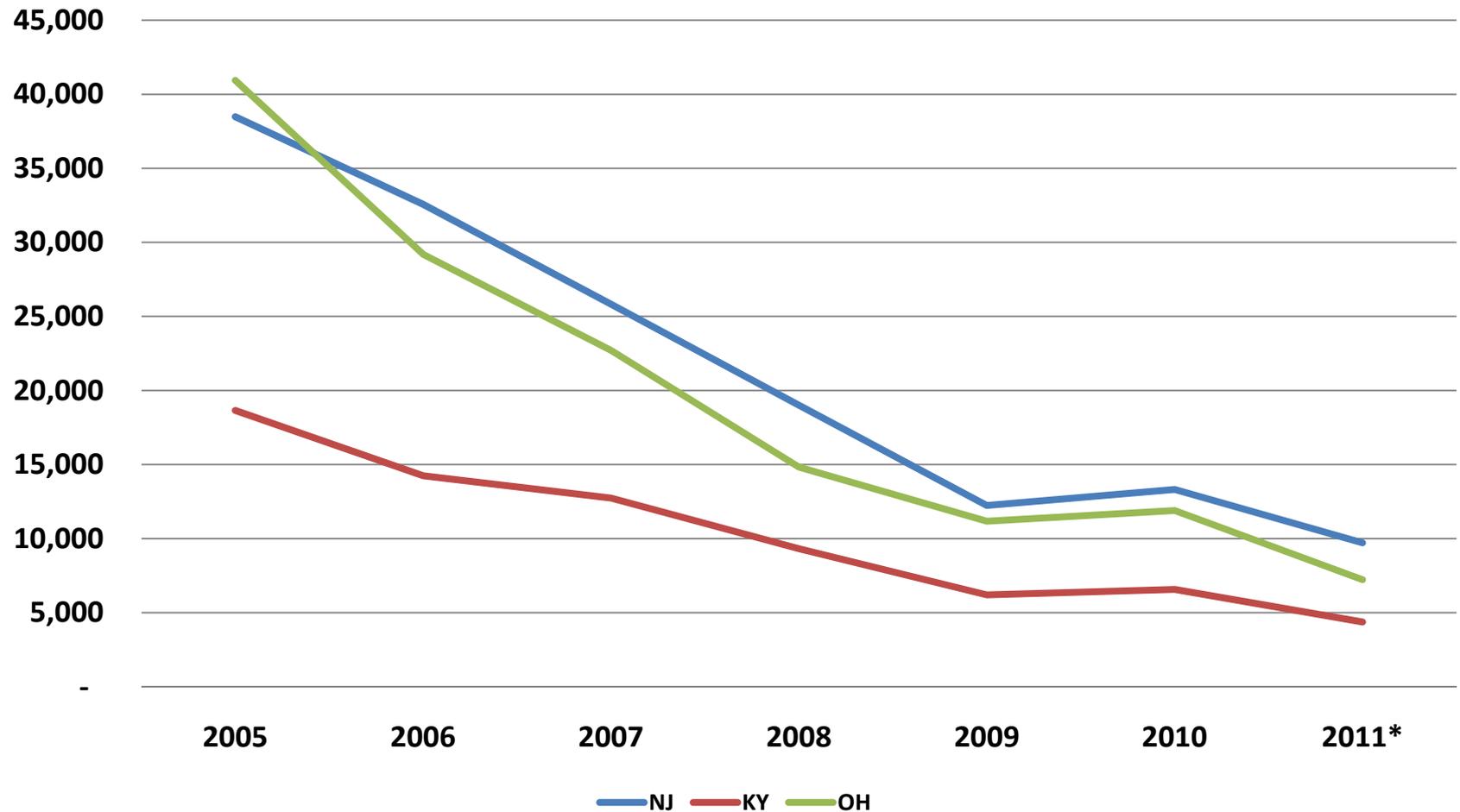


Three Markets

~~NEW~~ JERSEY



Residential New Home Permits



* 2011 Annualized from preliminary YTD data

Code Status

→ New Jersey

- IECC 2009 effective March 6, 2011
- Duct testing requirements delayed until January 2013
- 2 Year extension on filed permits

→ Kentucky

- IECC 2006 (KY Residential Code effective March, 2011)
- Update to IECC 2009 uncertain
- May be “tabled” amid strong opposition?

→ Ohio

- IECC 2006 or Ohio alternative paths (<2006 equivalent)
- Update to IECC 2009 anticipated (2012 implementation)
- Includes a new alternative path to work around 2x4 framing



Other Program Context

→ New Jersey

- Mix of building types and builders
- High housing demand, high cost, history of quality issues
- Tradition of utility sponsored programs and generous incentives (~\$1000-\$3000 plus rating cost)
- ENERGY STAR Homes began in 1997, statewide in 2001
- Additional prescriptive requirements added over time to drive performance
- High reported “spillover” among non-participants



Other Program Context

→ Kentucky

- Mostly smaller production and custom builders, plus one dominant “value” market leader
- New program in 2009
- Minimal builder participation and rater infrastructure prior to utility engagement
- Supported by local Home Builder Associations, in parallel with Green Build Kentucky initiative
- Low energy costs but high awareness of potential to rise
- Incentives initially designed to cover rating cost only (\$450+)
- \$800 State tax credit (limited applicability)



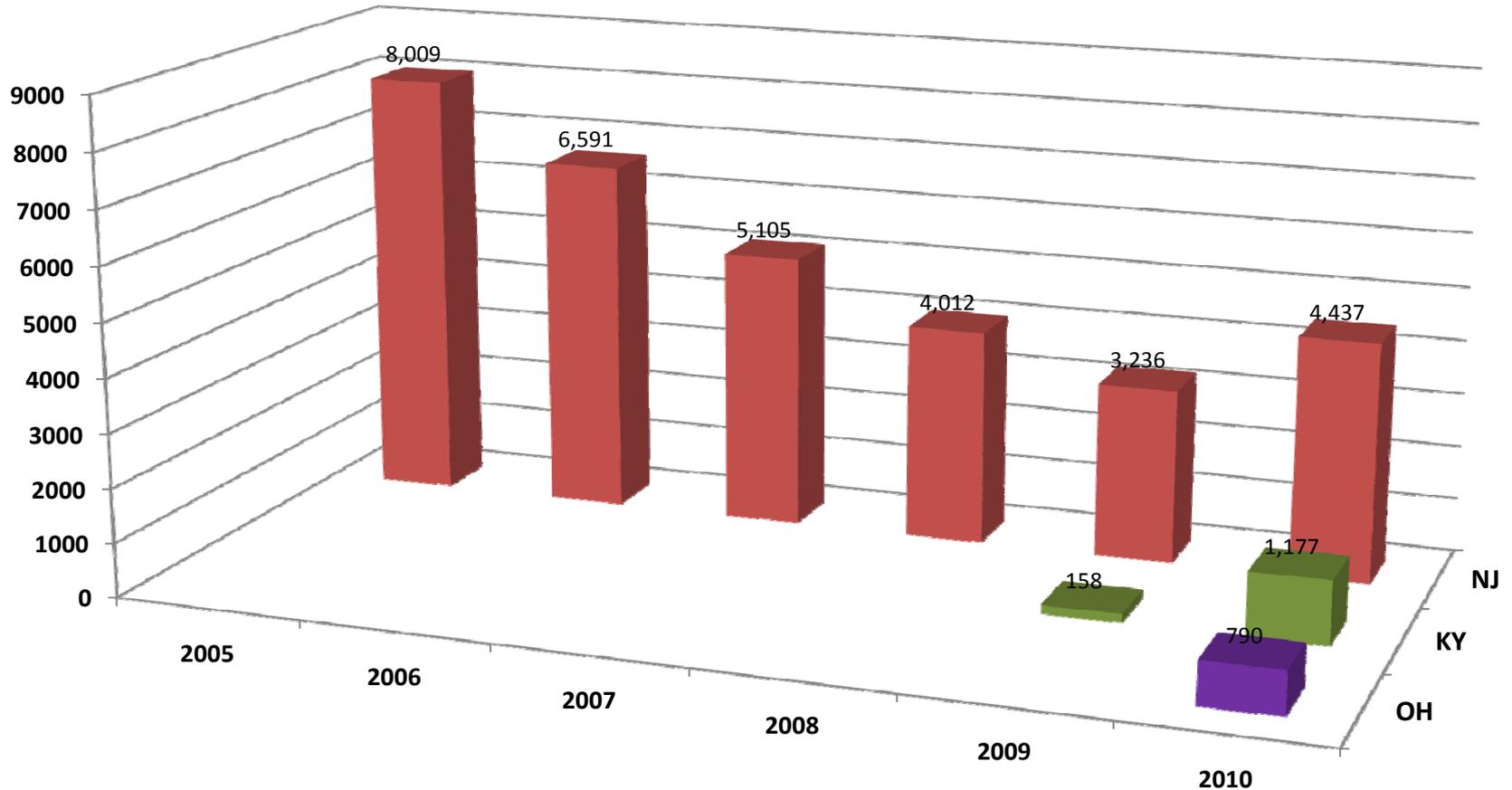
Other Program Context

→ Ohio

- Range of builders including national/regional production companies
- Geographical concentration (Columbus metro area)
- Existing rater infrastructure supporting a base level of voluntary ENERGY STAR participation (no programmatic support or QA)
- New program in 2010 needed to set bar above ENERGY STAR 2.0
- Incentives designed to cover ~30% of total incremental cost, including rating (\$900 for first level)

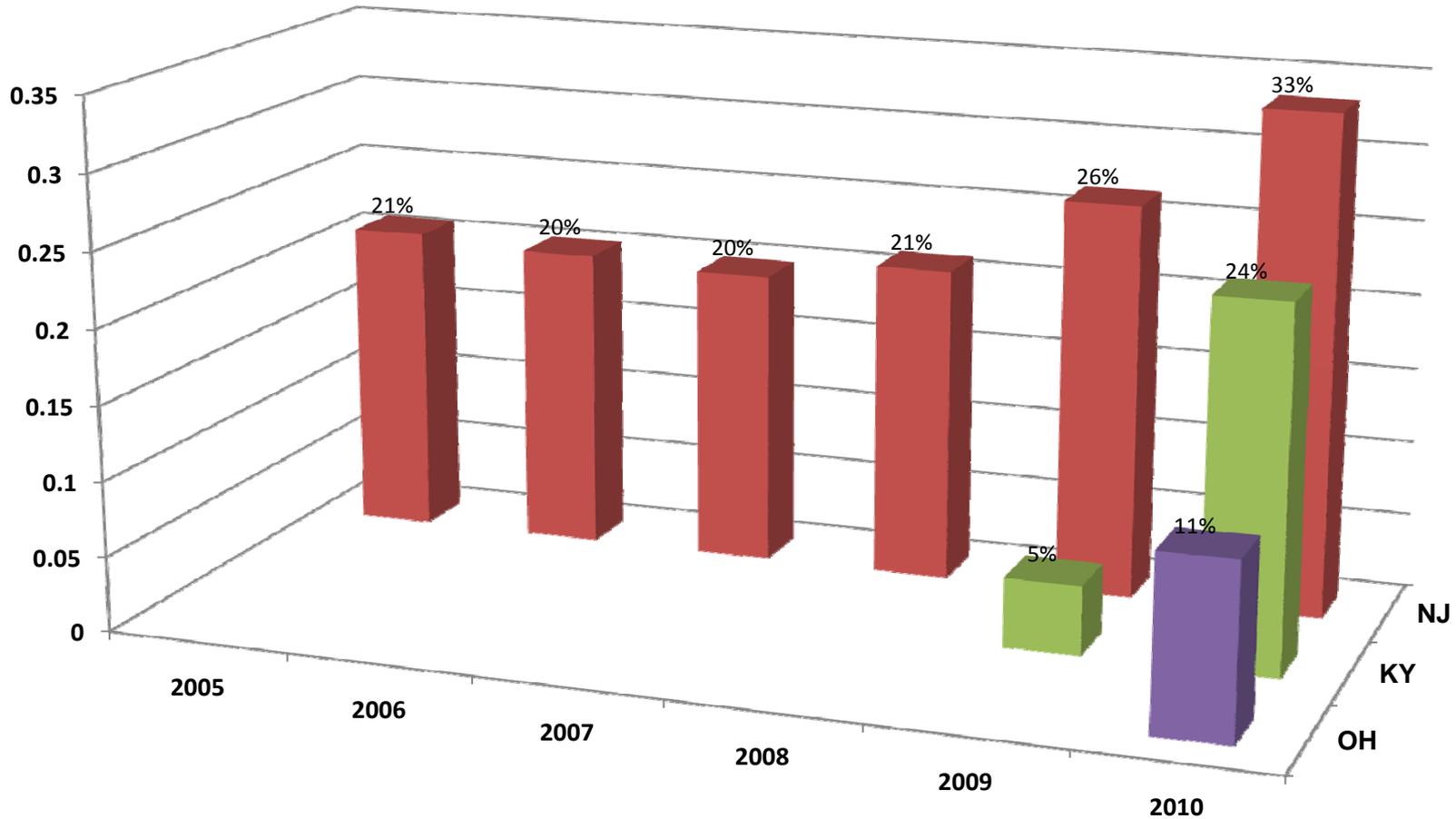


Program Results



Certified Homes by Year
(Enrollments in Ohio)

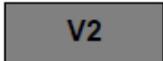
Program Results



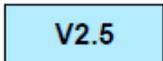
Market Share: Completions vs. Same Year Permits
(Enrollments in Ohio)

EPA's (Original) Timeline

Permit Date	Building Completion Date				
	7/1/2010	1/1/2011	7/1/2011	1/1/2012	7/1/2012
Before 1/1/2011	V2 Single Family Homes ¹		V2.5	V3	
	V2 Condos and Apts in Multi-Family Buildings ²			V3	
On or After 1/1/2011	V2.5 All Homes			V3	
On or After 1/1/2012				V3 All Homes	



V2 Version 2.0: 2006 Guidelines



V2.5 Version 2.5: Version 3.0 ENERGY STAR Reference Design with Air Barriers and Air Sealing sections of Thermal Enclosure Checklist. Other checklists completed but not enforced



V3 Version 3.0: Version 3.0 ENERGY STAR Reference Design with All Checklists

NJ Adaptations

New Jersey ENERGY STAR Homes

→ Level 1: Version 2.0 +...

- Fully ducted & mastic sealed supplies & returns
- Mechanical ventilation / combustion safety
- Lighting
- Sq. ft. limits caps on incentives

→ Times out
w/2.0

→ Level 2: Version 2.0 +...

- HERS 65
- All other Level 1 requirements

→ v2.5/3.0

→ Level 3: Climate Choice Home

- Max HERS 50 before renewables
- Additional incentives below HERS 50
- Early version 3.0 checklists



KY Adaptations

LG&E and KU ENERGY STAR New Homes

➔ Level 1: Version 2.0

- Incentive intended to cover rating cost only
- Variable by house size
- Times out with v2.0

➔ Times out
w/2.0

➔ Level 2: Version 2.0 +...

- Incentive to cover rating plus % of upgrade
- HAVC QI Page 1
 - Manual D in addition to J & S
 - ASHRAE 62.2 mechanical ventilation
 - Combustion safety

➔ v2.5/3.0



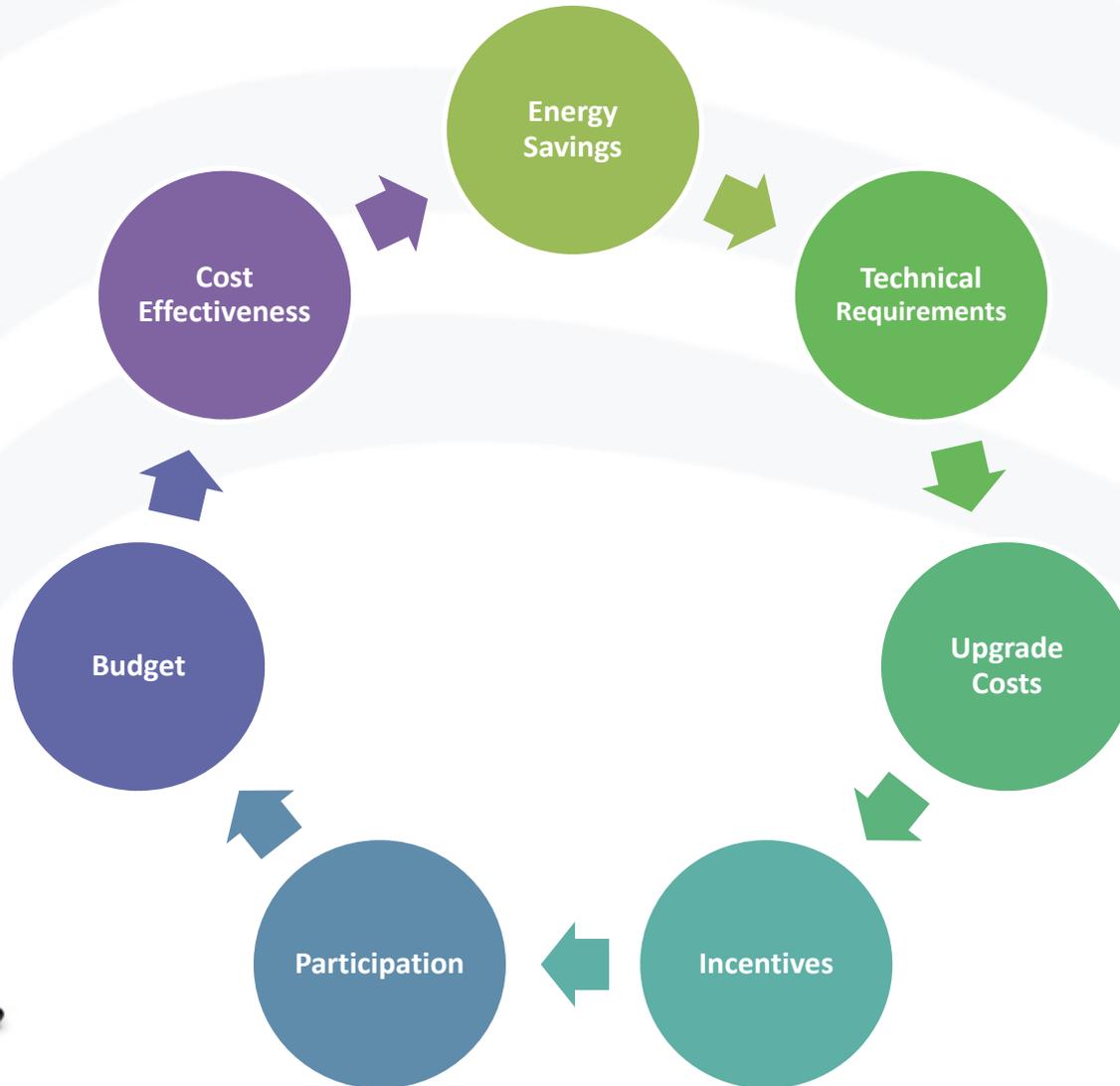
New Program Design: Ohio

→ Could we...?

- Leverage market slowdown before turn around
- Use anticipation of code and ENERGY STAR updates to drive higher building and energy performance
- Entice new participants with tiered technical requirements and incentives
- Build on brand value of ENERGY STAR at all levels
- Provide sufficient value to carry momentum into Version 3 by 2012
 - Training support
 - Technical support
 - Marketing support
 - QA



The Program Design Challenge



Program Structure: Level 1

ENERGY STAR version 2.0 compliant (max HERS 85) +...

- ➔ ENERGY STAR Central A/C or Heat Pump
- ➔ ENERGY STAR Central Heat with minimum 92 AFUE (furnace), 85 AFUE (boiler) or 8.5 HSPF (heat pump)
- ➔ HVAC installation compliant with v3.0 HVAC Contractor Checklist page 1 (Manuals J, S & D, ASHRAE 62.2)
- ➔ All supplies and returns fully ducted & mastic sealed OR v3.0 compliant
- ➔ Only direct or power vented space and domestic hot water heating combustion appliances if located within the pressure boundary
- ➔ Maximum 5.0 ACH50 building envelope air leakage
- ➔ 60% ENERGY STAR bulbs or Advanced Lighting Package



Program Structure: Level 2

ENERGY STAR version 2.0 compliant

- ➔ With maximum HERS 65
- ➔ Sunsets with v2.0

OR ENERGY STAR version 2.5 compliant

- ➔ Site specific HERS target
- ➔ Valid through end 2011

- ➔ All other Level 1 requirements apply
 - + 80% ENERGY STAR bulbs or Advanced Lighting Package compliant
 - + All ENERGY STAR appliances if supplied by builder



Program Structure: Level 3

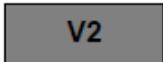
- ➔ **ENERGY STAR version 3.0 fully compliant**
 - Site specific HERS target and all checklists (incorporates requirements for HVAC installation, envelope and duct tightness)

- ➔ All other program specific requirements not included in v3.0 apply:
 - ENERGY STAR Central A/C or Heat Pump
 - ENERGY STAR Central Heat with minimum 92 AFUE (furnace), 85 AFUE (boiler) or 8.5 HSPF (heat pump)
 - All ENERGY STAR appliances if supplied by builder

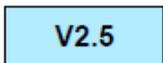


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V2 Version 2.0: 2006 Guidelines

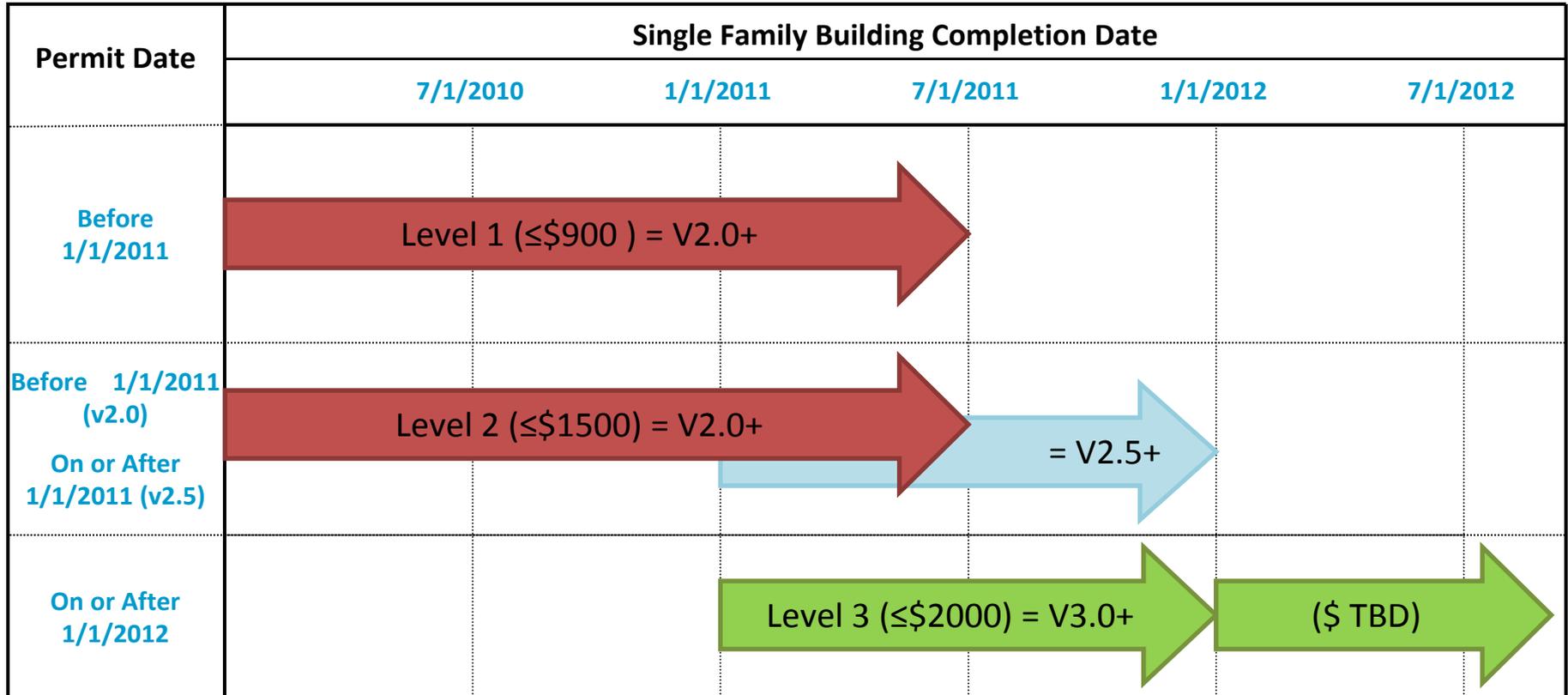


V2.5 Version 2.5: Version 3.0 ENERGY STAR Reference Design with Air Barriers and Air Sealing sections of Thermal Enclosure Checklist. Other checklists completed but not enforced



V3 Version 3.0: Version 3.0 ENERGY STAR Reference Design with All Checklists

Timeline



V2.0

Version 2.0: 2006 Guidelines / plus program-specific additional requirements

V2.5

Version 2.5: Version 3.0 ENERGY STAR Reference Design with Air Barriers and Air Sealing sections of Thermal Enclosure Checklist. Other checklists completed but not enforced / plus program-specific additional requirements

V3.0

Version 3.0: Version 3.0 ENERGY STAR Reference Design with All Checklists / plus program-specific additional requirements

The Complexity Barrier

- ➔ ENERGY STAR timeline
- ➔ ENERGY STAR version specs
- ➔ Additional program requirements & QA

The Complexity Barrier

Response 1: Keep Participation Process Simple:

- ➔ Builder, rater and site enrollment
- ➔ Paperwork & program communications
- ➔ Access to program support

The Complexity Barrier

Response 2: Add Value:

- ➔ Builder Incentives
 - ≈ 30-40% of incremental cost
- ➔ Rating company incentives
 - Participation milestones
- ➔ Training
 - Technical
 - Sales
- ➔ Marketing Support
 - Builder
 - Rater
 - Consumer

Assumptions

- ➔ Timing of market turnaround
- ➔ Certainty of code updates
- ➔ Incremental cost
 - Ratings
 - Upgrades
- ➔ Value of incentives
- ➔ ENERGY STAR brand value
- ➔ Value of training & support
- ➔ Momentum at higher levels

New-home sales fall to new low

**NEWSFLASH!
MARKET CONDITIONS NOT
COOPERATING!**

MATT YORK / Associated Press

A cul-de-sac awaits builders in Queen Creek, Ariz. February sales of new homes plummeted in competition with distressed properties as foreclosures remained at record levels.

Median Home Price

Competition from lower-cost foreclosures has tamped down new-home sales and median prices.

Yearly median home price.



SOURCE: U.S. Census Bureau

MIKE PLACENTRA / Staff Artist

19,000 sold in Feb., the fewest on record, and just 1,000 in the nation's Northeast.

By Alan J. Heavens
INQUIRER REAL ESTATE WRITER

Sales of newly constructed homes unexpectedly hit the skids in February, falling to the lowest level reported in more than four decades, the Census Bureau said Wednesday.

February's 19,000 single-family-home sales nationwide made it the worst month since record-keeping began in 1963, knocking out the previous low of 21,000 in January.

At a seasonally adjusted annual rate of 250,000, February's sales fell 16.9 percent

from the January rate of 301,000 and were 28 percent below February 2010's 347,000.

Annual sales of at least 700,000 new homes are considered the sign of a healthy market.

Median prices also fell in February, to \$202,100, the lowest since 2003, when the last decade's housing boom was beginning, the census data showed. At the end of 2003, the median price of a new home was \$195,000. (Median is the middle number; half the houses sold for more, half for less.)

The February median price was 13.9 per-

cent below January's \$234,800 and fell 8.9 percent from February 2010's \$221,900, the Census Bureau reported.

Sales declined in every region of the country. With 11,000 sales, the South had more than the three other regions combined. Just 1,000 new homes were sold in the nation's Northeast.

As sales and prices plummeted, the inventory of new homes rose to 8.9 months at the current pace, "indicating that the housing market is still bouncing around the bottom," said IHS Global Insight senior economist Chris G. Christopher Jr.

Christopher said that although employment growth was relatively stronger, it had been "adding to continued demand for automobiles," not helping the housing market.

See HOMES on C6

Builder/Rater Feedback

- ➔ Construction costs paramount
 - New homes vs. existing homes
- ➔ Higher incremental cost than first thought
 - “Now we understand what’s involved”
 - Code updates not here yet
- ➔ How much brand value in the ENERGY STAR label?
 - Market confusion – “this whole house” vs. products and partners

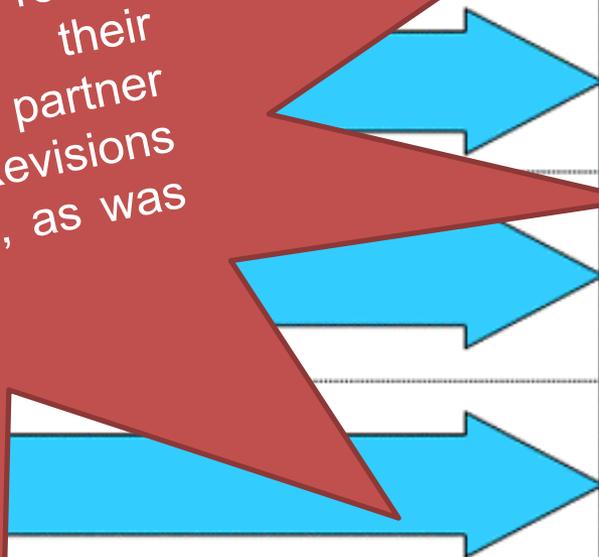


But Things Change...

Permit Date ¹	Date of Construction ²
Before 4/1/2011	
Between 4/1/2011 and 12/31/2011	
On or After 1/1/2012 ⁵	

Version 2	Version 2: 2006 Guidelines
Version 2.5	Version 2.5: Core Version 3 energy efficiency measures with Air Barriers and Air Sealing sections of Thermal Enclosure System Rater Checklist; Other checklists completed but not enforced
Version 3	Version 3: Core Version 3 energy efficiency measures with all checklists completed and enforced

EPA expects to continue to periodically revise the Version 3 guidelines during their implementation in response to partner questions and evolving standards. Revisions will be made on an as-needed basis, as was the case with Revision 03.



Builder/Rater Feedback

- ➔ Moving target syndrome
 - Impact is less than perception and generally responsive
- ➔ It's too far after all
 - Scope reaches too far beyond “energy”
 - Focus on the energy score (Leading Builders of America and Builders Challenge)
- ➔ Concern over reliance on contractors



Response Strategies - I

- ➔ Better define incremental cost and effort
- ➔ Reinforce prep value for IECC 2009+
- ➔ Use supplemental training to engage with all stakeholders
 - Version 3
 - Process improvement



Response Strategies - II

- ➔ Redirect marketing to drive consumer education/demand
 - Program homes vs. code/non-participating homes
 - >>> Program homes vs. resale homes <<<
 - Quality, comfort, cost of ownership ("PITI + U")
- ➔ Adjust incentives
- ➔ Consider maintaining an entry level tier in 2012



Discussion...

