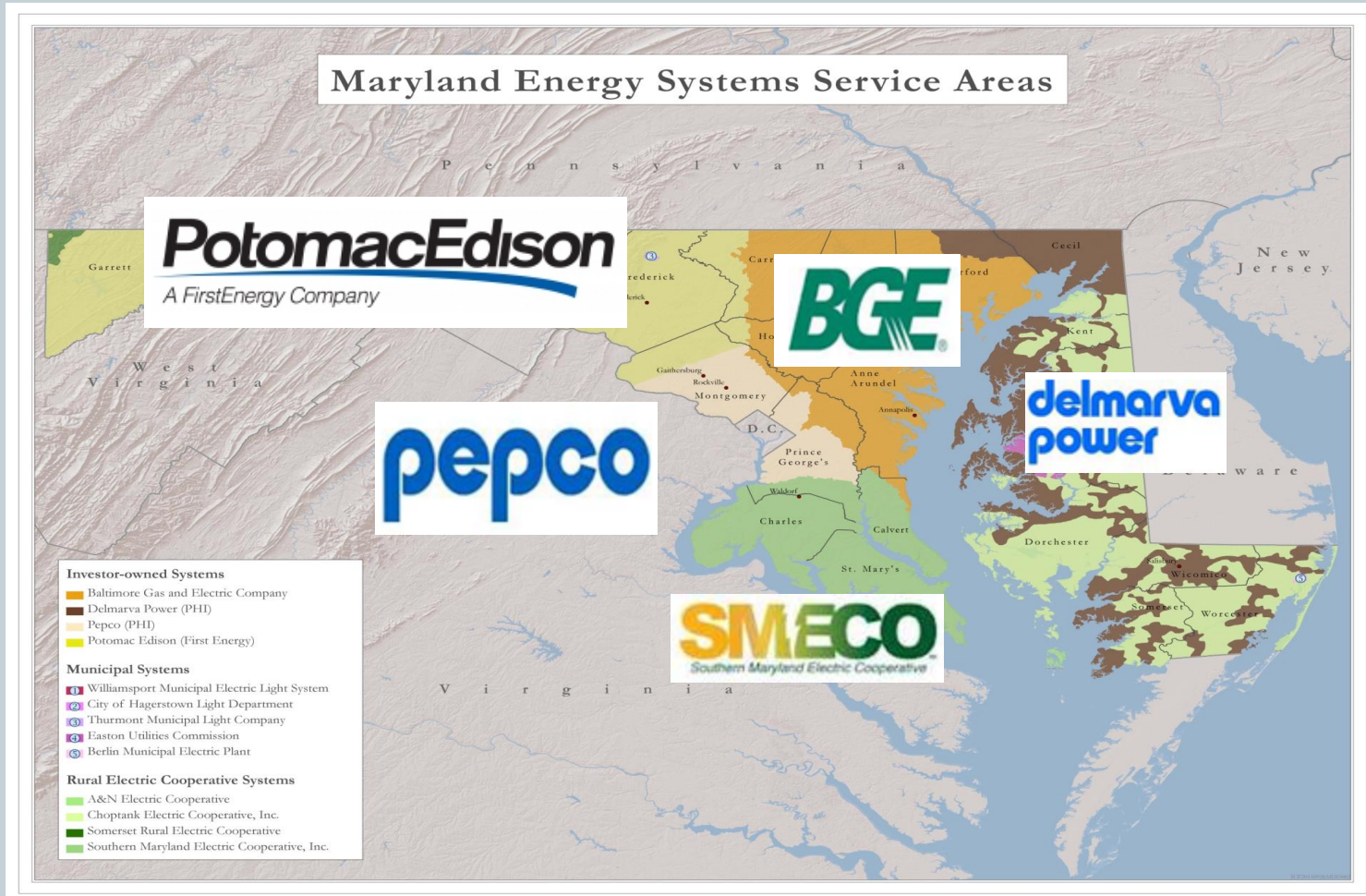


# Maryland ENERGY STAR<sup>®</sup> for New Homes Programs



**TALKING ‘BOUT AN  
EVOLUTION**

# The State of Maryland



# Agenda



- The Early Years: 2009-2011
- The Version 3 Transition: 2012-2014
- The Future: 2015-~2047

# The Early Years



## **GROWING A PROGRAM WITH ENERGY STAR**

# The Early Years



# The Early Years

- Began recruiting familiar and largest builders in the territory:

- NV Homes
- Ryan Homes
- Beazer Homes

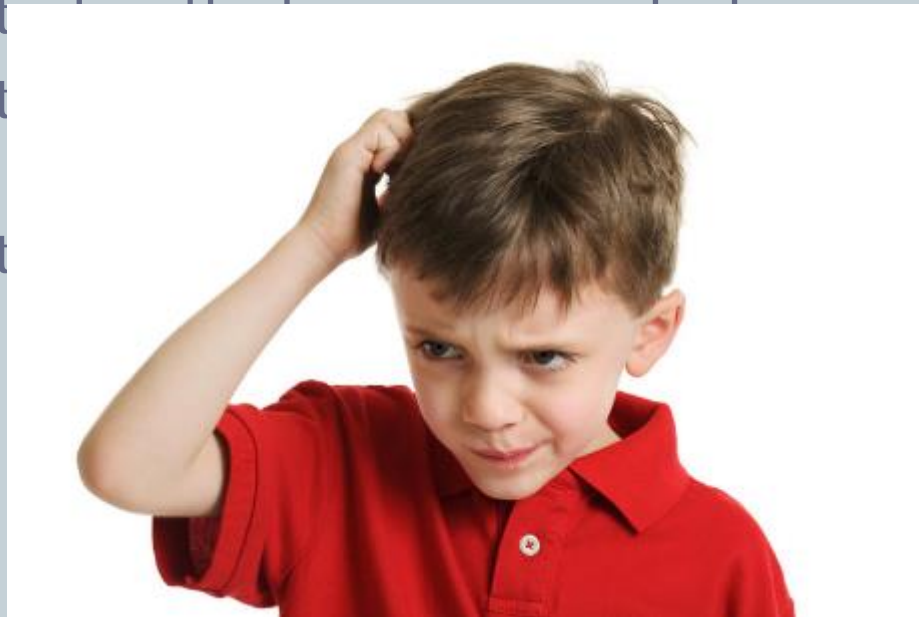
- ENERGY STAR and HERS 85 = \$400
- ENERGY STAR and HERS 80 = \$800
- ENERGY STAR and HERS 75 = \$1000

# The Early Years



- **Full Disclosure:**

- I had no idea what I was doing.
- I thought ... captured savings.
- I thought ... cally meant higher savings.
- I thought ... edicated to applying



# The Early Years



- By the end of the first year, we had moved to our new homes.
- We had 11 children.
- Of the suitcases, the smallest, left behind.



es on 53

as the

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# The Early Years



- February 2010 SMECO launched its program
- June 2010, BGE received 250 homes submitted for payment
- September 2010, BGE received 780 homes submitted for payment, SMECO received 130 homes
- Trainings were held on:
  - How to sell ENERGY STAR houses,
  - How to pass the ever complicated TBC,
  - How to seal ducts

# The Early Years



- In anticipation of the upcoming Version 3 transition, a new incentive structure was deployed in 2011.
  - ENERGY STAR V2.5 and HERS Index < 75 = \$1000
  - ENERGY STAR V2.5 and HERS Index <70 = \$1300
  - ENERGY STAR V2.5 and HERS Index <65 = \$1600

# The Early Years



- **By the end 2011, BGE and SMECO met goals**
  - BGE paid incentives on ~1675 homes in 2011
  - SMECO paid incentives on ~490 homes in 2011
  - Builders were following the lead of large production builders
  - Found value in incentives, found value in differentiation through brand.

# The Verbal Transition



# The Version 3 Transition



- Beginning of new PSC program cycle
- Pepco, Delmarva Power, and Potomac Edison all launch programs in February 2012
  - All Maryland utilities collaborated to provide simple program for builders, raters, and PSC
- Creation of new Home Registration and Rebate Tool, used across all five programs

# The Version 3 Transition



HOME NEW REGISTRATION SEARCH REGISTRATIONS IMPORT LOGOUT

## Welcome to the BGE Home Registration Web Application

Welcome to the home registration web portal for the BGE ENERGY STAR® for New Homes Program! We are pleased to offer this new web service to make it more convenient for you and your company to participate and apply for incentives. The system will verify that your application materials are complete and accurate, and shorten the time it takes to process and return your incentives.

We value your participation in the BGE ENERGY STAR for New Homes Program. Thank You!

Create new registration Review registrations Change password?

HOME NEW REGISTRATION SEARCH REGISTRATIONS IMPORT LOGOUT

## Welcome to the SMECO Home Registration Web Application

Welcome to the home registration web portal for the SMECO ENERGY STAR® for New Homes Program! We are pleased to offer this new web service to make it more convenient for you and your company to participate and apply for incentives. The system will verify that your application materials are complete and accurate, and shorten the time it takes to process and return your incentives.

We value your participation in the SMECO ENERGY STAR for New Homes Program. Thank You!

Create new registration Review registrations Change password?

HOME NEW REGISTRATION SEARCH REGISTRATIONS IMPORT LOGOUT

## Welcome to the Potomac Edison Home Registration Web Application

Welcome to the home registration web portal for the Potomac Edison for New Homes Program! We are pleased to offer this new web service to make it more convenient for you and your company to participate and apply for incentives. The system will verify that your application materials are complete and accurate, and shorten the time it takes to process and return your incentives.

HOME NEW REGISTRATION SEARCH REGISTRATIONS IMPORT LOGOUT

## Welcome to the Pepco Home Registration Web Application

Welcome to the home registration web portal for the Pepco ENERGY STAR® for New Homes Program! We are pleased to offer this new web service to make it more convenient for you and your company to participate and apply for incentives. The system will verify that your application materials are complete and accurate, and shorten the time it takes to process and return your incentives.

We value your participation in the Pepco ENERGY STAR for New Homes Program. Thank You!

Create new registration Review registrations Change password?

## Welcome to the Delmarva Power Home Registration Web Application

Welcome to the home registration web portal for the Delmarva Power ENERGY STAR® for New Homes Program! We are pleased to offer this new web service to make it more convenient for you and your company to participate and apply for incentives. The system will verify that your application materials are complete and accurate, and shorten the time it takes to process and return your incentives.

We value your participation in the Delmarva Power ENERGY STAR for New Homes Program. Thank You!

Create new registration Review registrations Change password?

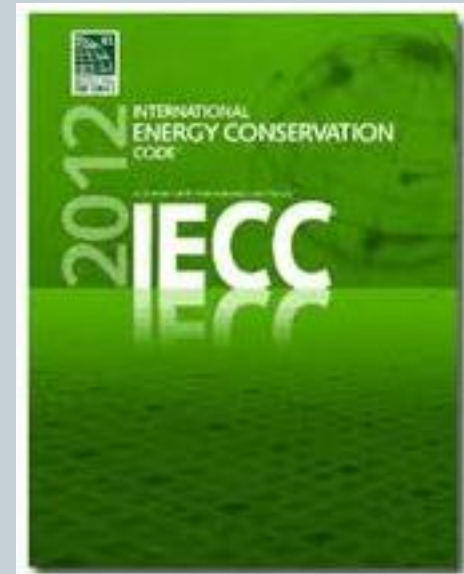
# The Version 3 Transition

- 2012 averaging 2100 kWh per house in Maryland
- With the addition of 3 new utilities in Maryland varying market penetration metrics between 40 and 55%



# The Version 3 Transition

- 2012 code adopted by Maryland
  - Ran simulation on 300 homes compared to code
  - Capture savings from HVAC checklist
  - Require 90% CFL
  - No savings lost for failed code compliance





# The Version 3 Transition

- Dropped savings down to 1150 kWh per house
- Dropped builders because can't incur costs
- Dropped builder leads because raters don't have to model homes, track checklists



# The Version 3 Transition



- On site inspection of 67 homes
- Work without code inspectors
- Key inputs:
  - Insulation
  - CFL's
  - Windows
  - HVAC System
  - Infiltration
  - Duct Leakage

Maryland New Homes Programs - 2012 Code Compliance Baseline Study									
Builder:					Lot #:				
Community:									
Street Address:					County:				
House Type:		<input type="checkbox"/> SFD		<input type="checkbox"/> Townhouse		<input type="checkbox"/> Two on Two Condo			
Foundation:		<input type="checkbox"/> Basement		<input type="checkbox"/> Slab		<input type="checkbox"/> Crawlspace			
Area:					Volume:				
# of Bedrooms:					Ventilation Rate:				
Whole House Air Infiltration:			CFM @ 50 Pa		Fan PR:		RING:		
HVAC SYSTEM # 1					HVAC SYSTEM # 2				
Location Served:					Location Served:				
Area of Zone:					Area of Zone:				
Brand:					Brand:				
Furnace/HP Model #:					Furnace/HP Model #:				
Programmable T-Stat? <input type="checkbox"/> Yes <input type="checkbox"/> No					Programmable T-Stat? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Input BTU					Input BTU				
Output BTU					Output BTU				
Coil Model #:					Coil Model #:				
Condensor Model #:					Condensor Model #:				
A/C SEER:					A/C SEER:				
Total Duct Leakage:					Total Duct Leakage:				
Leakage to Outside:					Leakage to Outside:				
% of Duct Outside:					% of Duct Outside:				
Duct R-Value:					Duct R-Value:				
Above Grade Wall Insulation Value:					RESNET Grade:				
Below Grade Wall Insulation Value:					RESNET Grade:				
Attic Insulation Value:					RESNET Grade:				
Hot Water Brand:			Model:		Size:		Fuel:		
Windows		U-Factor:		SHGC:		Glazing Sq/Ft:			
		Manufacturer:				Model:			
Lighting		Fixture #:		CFL #:					
Notes:									

# The Version 3 Transition



<b>Inspected Input</b>	<b>2012 Code Requirement</b>	<b>Baseline Study result</b>
Ceiling R-Value	R-49	R-44
Wall R-Value	R-20	R-18
Infiltration	3 ACH <sub>50</sub>	3.5 ACH <sub>50</sub>
Duct Leakage	4 CFM <sub>25</sub>	8.4 CFM <sub>25</sub>
CFL%	75%	43%

# The Version 3 Transition



- EM&V contractors agreed that code was poorly enforced
  - Changed program's realization rate to 112%.
- Numbers of homes continued to climb across all utilities
  - 2014 over 4500 homes certified ENERGY STAR.
  - 2008 there were 644 homes certified ENERGY STAR
  - 700% increase in homes certified over 6 years

**PROG**



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# The Future



- Sticking with ENERGY STAR Version 3.1
- Incentive structure steps away from HERS Index:
  - ENERGY STAR Version 3.1 and 90% CFL requirement
  - Single Family Detached = \$1250
  - Townhome or attached product = \$750
  - Two on Two condos = \$550
  - Multifamily condos = \$400

# The Future



- Savings through 2015 ranges between 1200 and 1500 kWh across the 5 utilities.
- Very little impact on utility bills from building the home that provides the most effective rate.
  - 16 SEER AC units
  - LED lighting program methodology
  - Program needs to stay agnostic on fuel switching for water heaters.



ERS

# The Future



- Maryland is an early adopter of code, 2018 code will be made public end of 2015.
- Program has been successful after year one and want to continue partnership with building industry.
- Transitioning towards consumer behavior to supplement savings



# The Future



- **Current Pilot has over 600 homes receiving learning thermostats to capture the associated savings.**
  - Once cycle is completed, anticipating ~700 to 1100 kWh savings per house
  - Develop supply chain to deliver learning thermostats to all builders starting 2018
  - Looking into collaborative behavioral formats to engage with customers after purchase
  - Don't want to increase costs for builders participating in program.

# The End

