

# “Smart from the Start”

by the

California Urban Water Conservation  
Council

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# Residential Green Building Programs

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- ✓ Dozens of programs directed at new home construction:
  - National
    - LEED for Homes
    - NAHB Standard
    - ASHRAE Standard 189.1 (4 stories & above)
    - Green Globes - Green Building Initiative (4 stories & above)
  - Regional & Local
    - Build-It-Green
    - California Friendly
    - Environments for Living
    - Built Green
    - Green Points
    - ...and many, many more!



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**Is this good or bad???**



## Multiple disconnected programs...

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- ✓ Good: extraordinary nationwide attention being given to “green”
- ✓ Bad: Lack of program commonality leading to bad choices and confusion in the marketplace



# Smart From The Start: Stated Project Goals -

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“...improve water conservation  
input into the new home  
construction process.”



...and

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- Provide guidance to the water efficiency elements of existing “green” programs to -
  - Achieve more commonality
  - Offer water-efficiency expertise and experience where desperately needed
  - Recognize current technologies and approaches to water-efficiency in new homes



# Smart From the Start: Plumbing Elements

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- **Showers**
  - Showerheads
  - Shower stalls
- Toilets
- **Faucets**
  - Bathroom lavatory
  - Kitchen
- Residential urinals
- **Hot water plumbing**
  - Piping/distribution system
  - Insulation



# Smart From the Start: Appliances & Other Key Elements

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- Dishwashers
- Clothes washers
- Evaporative cooling systems
- Water softeners
- Drinking water treatment
- Water features (pools, spas)
- Landscape & landscape irrigation
- Alternative sources of water
  - Cooling condensate
  - Greywater
  - Municipally reclaimed water



# Smart From The Start: Thresholds & Tiers

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- Proposed “green” tiers...
  - Tier 1 - “Smart” - Minimum requirements for compliance with SFS
  - Tier 2 - “Genius” - More aggressive requirements for compliance; recognizes cutting-edge technologies & products

# Applying the tiers - some examples

	Tier 1 - Smart	Tier 2 - Genius
Lav faucet	WaterSense:1.5-gpm	WaterSense:1.0-gpm
Toilet	WaterSense	WaterSense AND 1.0-gpf
Dishwasher	5.8 gal per full cycle	5.0 gal per full cycle
Water Softener	Demand based; No sodium	Demand based; No sodium
Pools - Spas	Pool cover	Pool cover AND treatment of filter backwash water
Greywater	Plumb for greywater capture in the future	Plumb for, capture, & reuse of greywater

# Applying the tiers - some examples

	Tier 1 - Smart	Tier 2 - Genius
<b>Showerheads</b>	EPAct 2.5-gpm; Future: WaterSense	2.0-gpm; Future: WaterSense
<b>Shower Stall</b>	2.5 gpm per 2,500 sq. in. of floor area	2.0 gpm per 2,500 sq. in. of floor area
<b>Urinal</b>	HEU (0.5-gpf or less); OR Future: WaterSense	HEU (0.25-gpf or less) AND Future: WaterSense
<b>Clothes Washer</b>	Energy Star AND CEE Tier 2	Energy Star AND CEE Tier 3
<b>Hot Water Distr</b>	Parallel piping with or without recirc loop	Structured plumbing or Central core plumbing
<b>Submetering</b>	Dedicated irrig meter for 10,000 sf of irrig landsc	Dedicated irrig meter for 5,000 sf of irrig landsc



# Program development status...

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- Current state of the new home construction industry
  - Today, full cooperation in builder field trials is limited, at best
- Yet to determine the path to compliance
  - Mandatory minimums vs. point-based vs. composite
- Important next steps
  - Finalize tiered requirements
  - Field trials of high-tech equipment and applications

# Thank you...

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