

This presentation premiered at WaterSmart Innovations

watersmartinnovations.com





Development of a Home Water Efficiency Rating Index

**Edward Osann, Natural Resources Defense Council
Jacob Atalla, KB Homes**

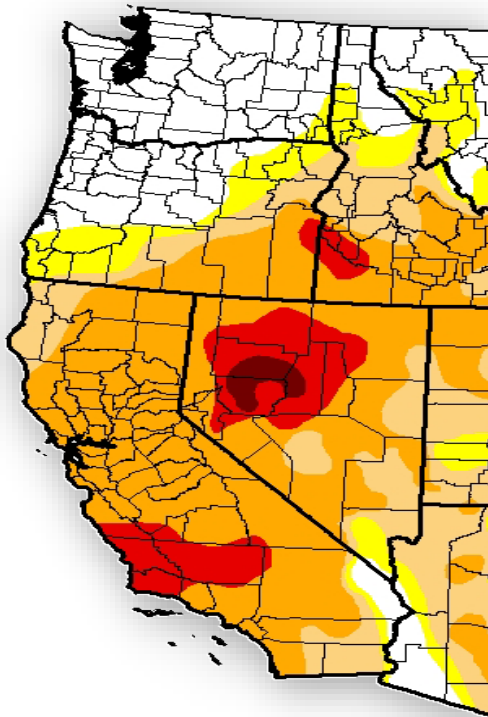
WaterSmart Innovations 2015, Las Vegas, NV – October 8, 2015

Time is Right for a Water Rating System

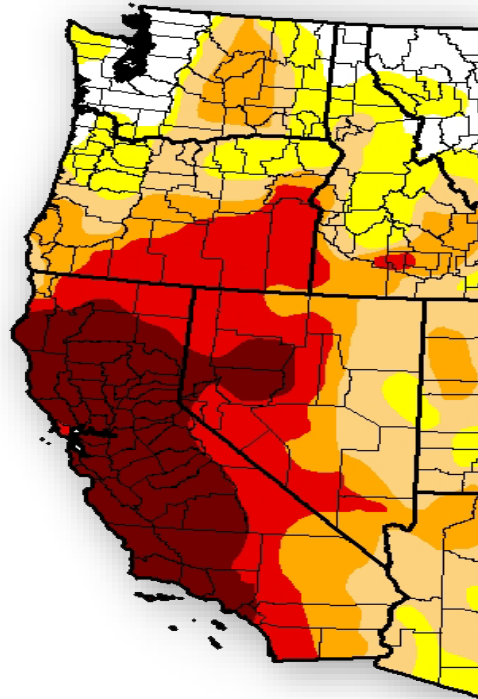
- Dry conditions focus public attention
- Increasing costs of water and wastewater
- Expanding technology for water efficiency
- Existing *energy* rating system reaching is now reaching national scale



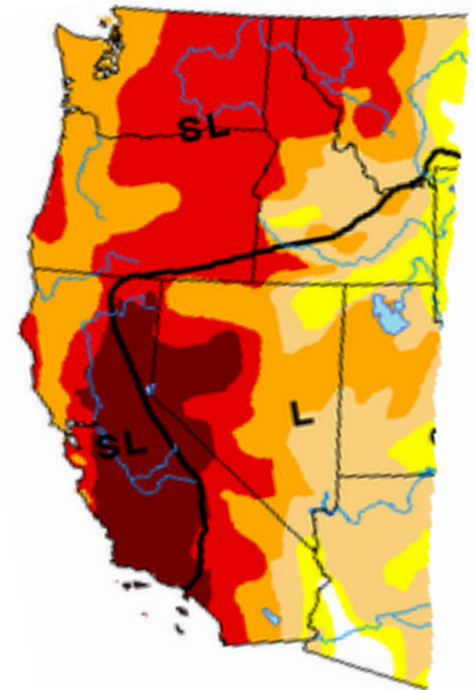
Growing Severity and Extent of Drought



2013



2014



2015

Value of Water Efficiency Extends Beyond Water Savings



Hydropower

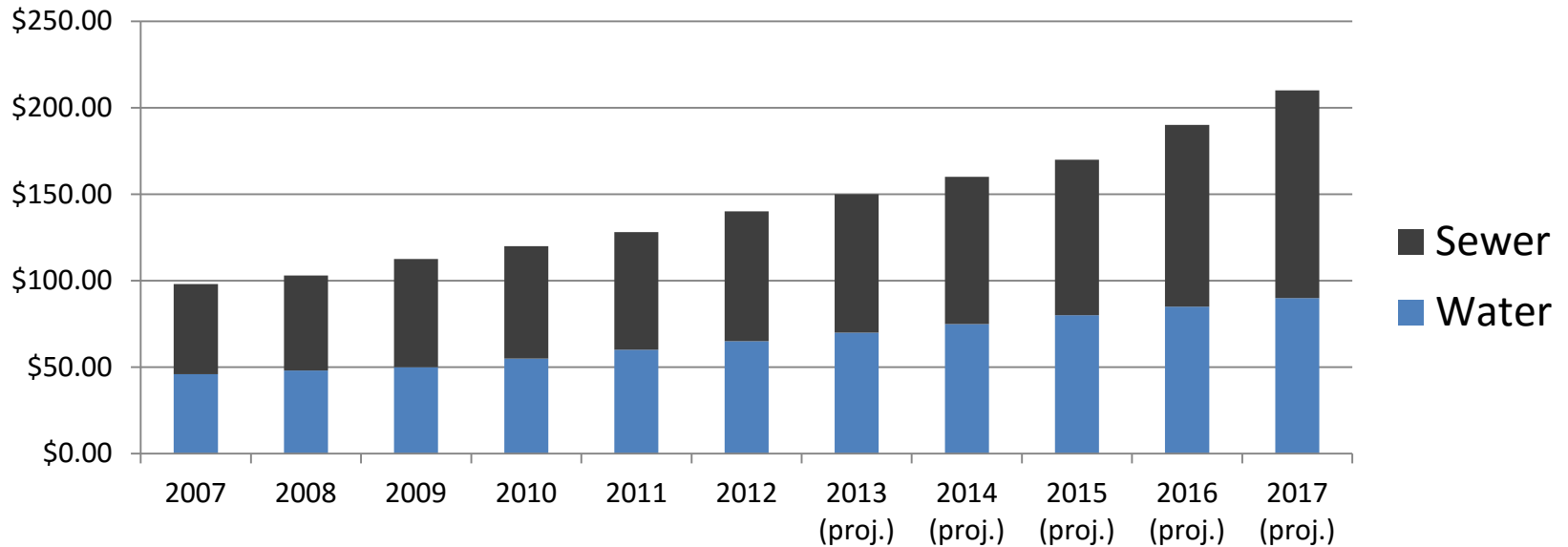
Growth

Economy

Rising Water & Sewer Rates: Approx. 9% per year

Rising Water & Sewer Bills

(Source: Black & Veatch – Largest 50 metros)



Why RESNET?

- A national non-profit, multi-stakeholder organization
- Oversees the Home Energy Rating System (HERS) for scoring the *energy* efficiency of homes
- HERS recently amended to better score hot water use
- RESNET works with about 5,000 certified HERS raters nationwide
- Operates at scale: 1/3 of new homes received a HERS rating in 2014



Key Objectives for the WER Index

- Nationwide applicability
- Suitable for both new and existing homes
- Encompasses both indoor and outdoor water efficiency
- Practical and affordable to administer
- Scores usable for quantitative comparison



Key Attributes of the WER Index

- Compares a rated home to a reference home of comparable size
- Reference home has fixed attributes typical of the recent past
- Reference home score = 100; Lower score is better
- Software assists in tallying the incremental differences in water consumption resulting from specific features of the home



WER Committee Structure

Each balanced with Energy and Water Experts

- WER Index Advisory Council
 - Open call ≈ 75 members
- WER Index Task Force
 - “technical committee”
 - 13 members
 - 3 co-chairs:
 - Jacob Atalla, KB Home
 - Ed Osann, NRDC
 - Jonah Schein, EPA
- WER Index Task Force Technical Subcommittees
 - Modeling & Development of Reference Home
 - Indoor Water Use
 - Outdoor Water Use
 - Rating Inspection & Test Procedures
 - Rater Training & Qualification Requirements

Broad stakeholder participation: Raters, Builders, Suppliers, Trades, Water Utilities, Software Developers, Consultants, Green Building Programs



**ANSI Adopts RESNET Domestic Hot
Water Systems Amendment to the
ANSI/RESNET Standard 301-2014**



ANSI Adopts RESNET Domestic Hot Water Systems Amendment to the ANSI/RESNET Standard 301-2014

Domestic Hot Water Systems Calculations

Add a Few More Indoor and Outdoor Water Usage Calculations

Factor in New Technologies

Compare to a Reference Home

Field Verification

First Draft WER Index \approx December 2015

A Win for All

- Environment
- Homeowners
- Home builders
- Renovation contractors
- Raters
- Water Districts & Municipalities
- Suppliers & Innovators
- Green Building Programs

Benefits for New Home Builders

Differentiation Through Quantification

- Ahead of codes
- Big difference compared to resale homes

Development of a Water “MPG”

- Plan-specific water saving calculations
- Local rates / accurate Water Utility \$ calculations
- More acceptable to legal counsels

Simple Leverage of Existing Team

- Low cost
- Robust software & QA

Questions & Follow Up

- Jacob Atalla, KB Home jatalla@kbhome.com
- Ed Osann, NRDC eosann@nrdc.org
- Jonah Schein, EPA Schein.Jonah@epa.gov
- Steve Baden, RESNET sbaden@natresnet.org

