DESIGNING WATER CONSERVATION RECOMMENDATIONS FOR THE CONNECTICUT WATER PLAN

Mary Ann Dickinson, President and CEO

Meeting of the Implementation Work Group 4-21-2020

Alliance *for* Water Efficiency

PROJECT DESCRIPTION

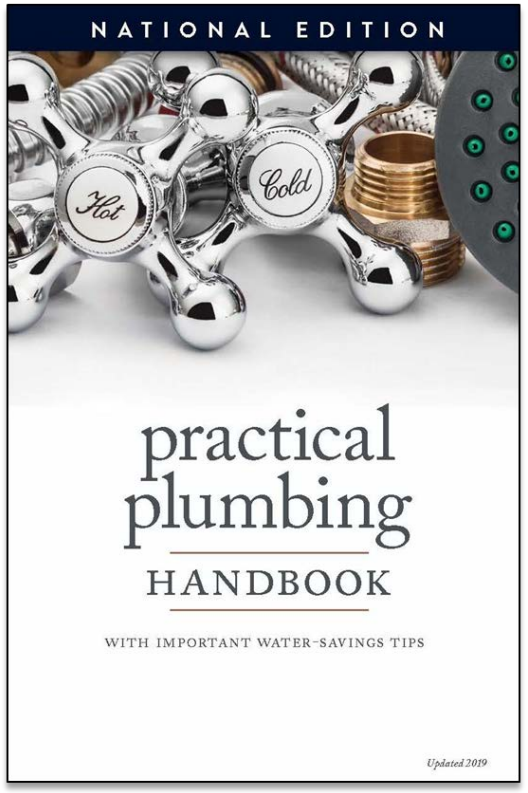
- $50,000 grant provided by Connecticut Water in their merger application before PURA
- Purpose: to provide technical assistance services to the Water Planning Council on water conservation programs identified in the State Water Plan
- Purpose: to help set priorities and provide additional research or models to help drive the implementation of conservation measures
- 9 key ideas for action were provided by AWE in a letter to PURA in April, 2019
- AWE chosen for the grant because of our extensive experience in water conservation in North America as well as our prior experience working in Connecticut

THE ALLIANCE FOR WATER EFFICIENCY

- Our mission is to promote an efficient and sustainable water future
- Over 500 member organizations in 200 watersheds delivering water to 50 million water users
- Our network and research focus is on smart solutions and a goal of Efficiency First

SAMPLE AWE PRODUCTS

- State Scorecard Reports analyzing water conservation laws
- Water Conservation Scenario Planning Tracking Tool
- Rates Handbook and Model to help utilities build water efficient rate structures but with revenue stability
- Rates videos for consumers
- Practical Plumbing Handbook for consumers
- Never Waste consumer education and outreach program
- Net Blue Water Neutral Development Program
- Numerous research studies on practical implementation questions
- Detailed web site resources



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PROMOTING AN EFFICIENT & SUSTAINABLE WATER FUTURE

Select Language

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IMPACT RESOURCES NEWS EVENTS MEMBERS ABOUT

As a stakeholder-based nonprofit organization dedicated to the efficient and sustainable use of water, the Alliance for Water Efficiency serves as a North American advocate for water-efficient products and programs, and provides information and assistance on water conservation efforts.

Explore Our Website

AWE'S LETTER TO PURA IDENTIFYING 9 POSSIBLE AREAS FOR ACTION

1. Provide an evaluation of existing state laws and regulations
2. Analyze the options for water waste enforcement
3. Review the revenue loss issues arising from conservation programs and recommend solutions for addressing this problem

Review and evaluate specific areas in the State Water Plan and provide recommendations:

4. Water conservation education outreach
5. Calculating passive conservation savings
6. Incentives for outdoor water conservation measures
7. Construction standards
8. Evaluation of barriers to green building and infrastructure
9. Working with the Green Industry

IWG IDENTIFIED THEIR PRIORITIES FOR THIS WORK

1. Review the revenue loss issues arising from conservation programs and recommend solutions for addressing this problem
2. Provide an evaluation of existing state laws and regulations
3. Analyze the options for water waste compliance/enforcement
4. Provide recommendations on water conservation education outreach
5. Provide recommendations on incentives for outdoor water conservation measures

MOVING FORWARD

- Original proposal from AWE had been to investigate all nine areas and present summary results in a report
- IWG preferred to do the identified priority areas in more depth
- Stakeholder input is desired, and AWE will comply with whatever process is defined
- First priority topic to be addressed is the topic of rates and revenue loss
- AWE has considerable experience in this area
- Our utility members with conservation programs were all suffering from reduced revenues and needed help
- We developed our Financing Sustainable Water initiative specifically to deal with this problem and to offer solutions

Financing Sustainable Water

FINANCING SUSTAINABLE WATER
Rates. Revenue. Resources.

Alliance for Water Efficiency

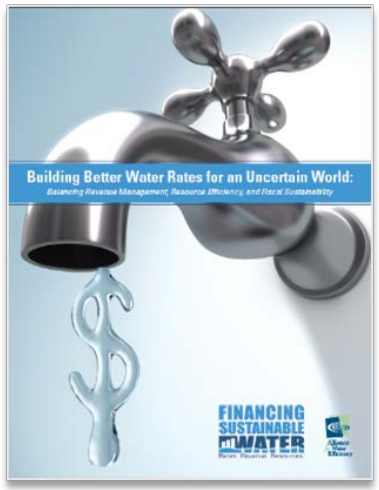
WHAT IS FINANCING SUSTAINABLE WATER?

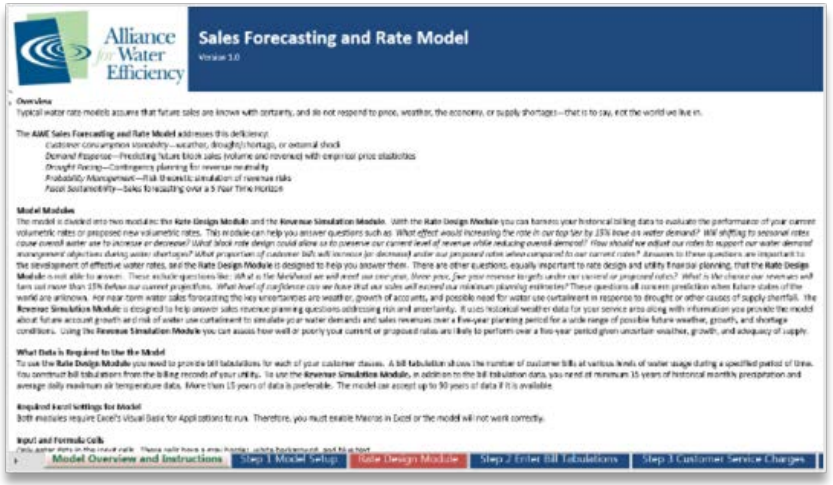
Building Better Rates in an Uncertain World: A Handbook to explain key concepts, provide case studies and implementation advice

AWE Sales Forecasting and Rate Model: Innovative, user-friendly tool to model scenarios, solve for flaws, and incorporate uncertainty into rate making

FinancingSustainableWater.org: Web-based resources to convene the latest research and information in one location

financingsustainablewater.org

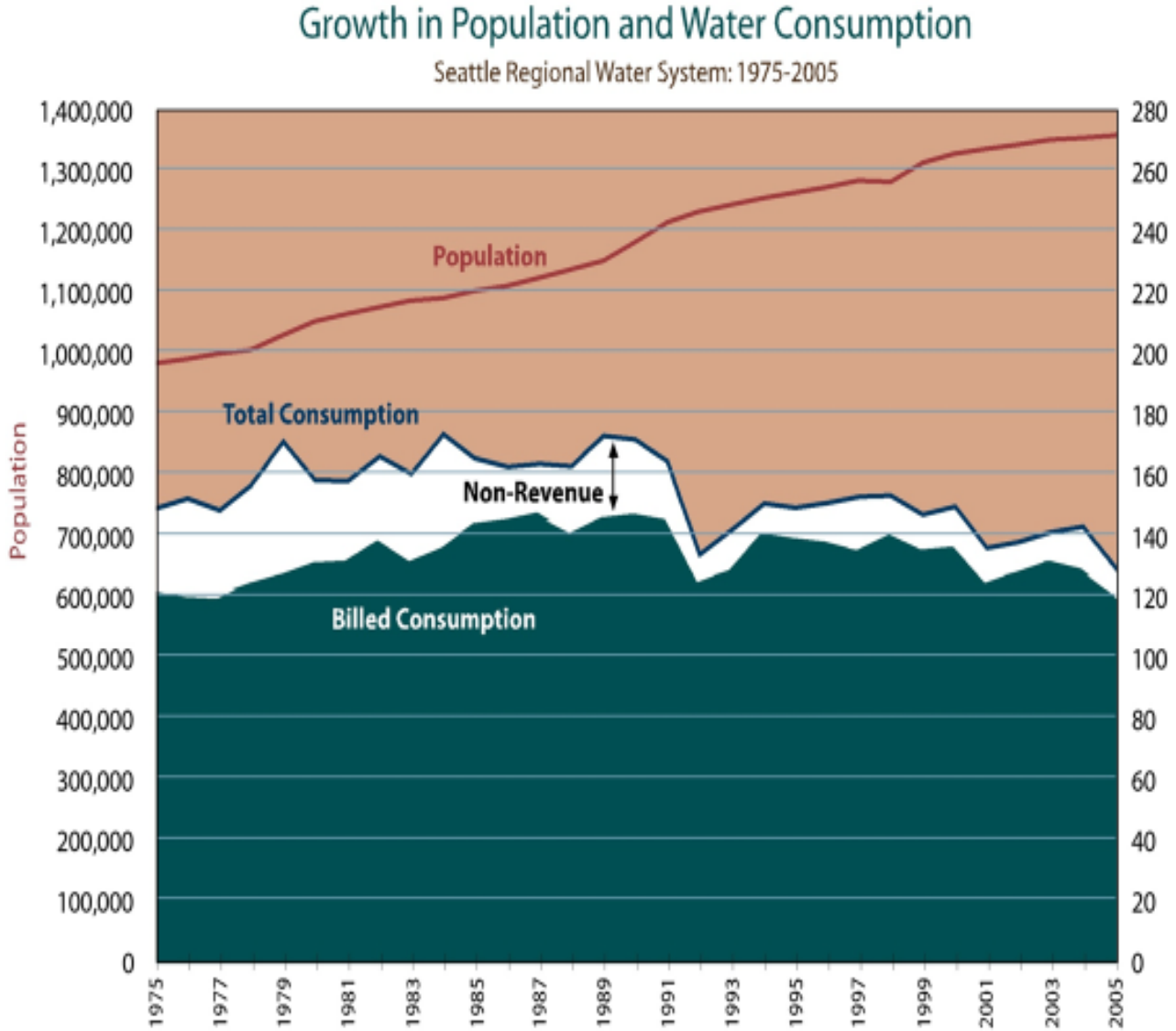




WHAT AFFECTS REVENUE STABILITY?

- Reduced demand from:
  - Efficient fixture replacement under national plumbing and appliance codes
  - Active conservation programs
  - Economic recessions
- Reduced peak demand in wet years
- Increased infrastructure costs
- Rise in other fixed costs (staffing, insurance)
- Demand Forecasting that doesn't take passive conservation into account and thus overestimates sales

SEATTLE'S CONSERVATION STORY AND REVENUE STABILITY



FOCUSING ON THE UTILITY REVENUE REQUIREMENT

AWE CONSERVATION TRACKING TOOL: UTILITY REVENUES & RATES WORKSHEET

Review revenue requirement and rate impacts: This worksheet calculates the impact of planned conservation on annual revenue requirement, average rates, and average bills. It assumes the volumetric revenues generated by the baseline demand and rates forecasts correspond to the utility's volumetric revenue requirement. It then adjusts forecasted annual water sales and revenue requirement using the water savings, conservation program cost, and utility avoided cost estimates calculated earlier. The adjusted revenue requirement equals the baseline revenue requirement plus annual conservation program cost minus annual avoided water supply cost. The adjusted average volumetric rate equals adjusted revenue requirement divided by adjusted annual water sales. The adjusted average monthly volumetric bill equals adjusted revenue requirement divided by number of accounts divided by 12. Calculations are done for two alternative financing strategies for planned conservation. The first strategy treats planned conservation as an operating expense. The model assumes planned conservation is paid for in the year it occurs (Pay-Go financed). The second strategy treats planned conservation as a capital expense. The model assumes planned conservation is debt financed. You can set the debt financing term using the drop-down list.

Select Chart to View

Change in Rev. Req.

Debt Financing Term (Yrs): 15

Years to Display in Chart: 15

Chart Explanation

Change in Annual Volumetric Revenue Requirement Due To Utility Conservation Program

Pay-Go Financed Program

Debt Financed Program

Baseline Volumetric Revenue Requirement, Average Rate, & Average Bill

Baseline Water Sales Forecast (from 2. Specify Demands)

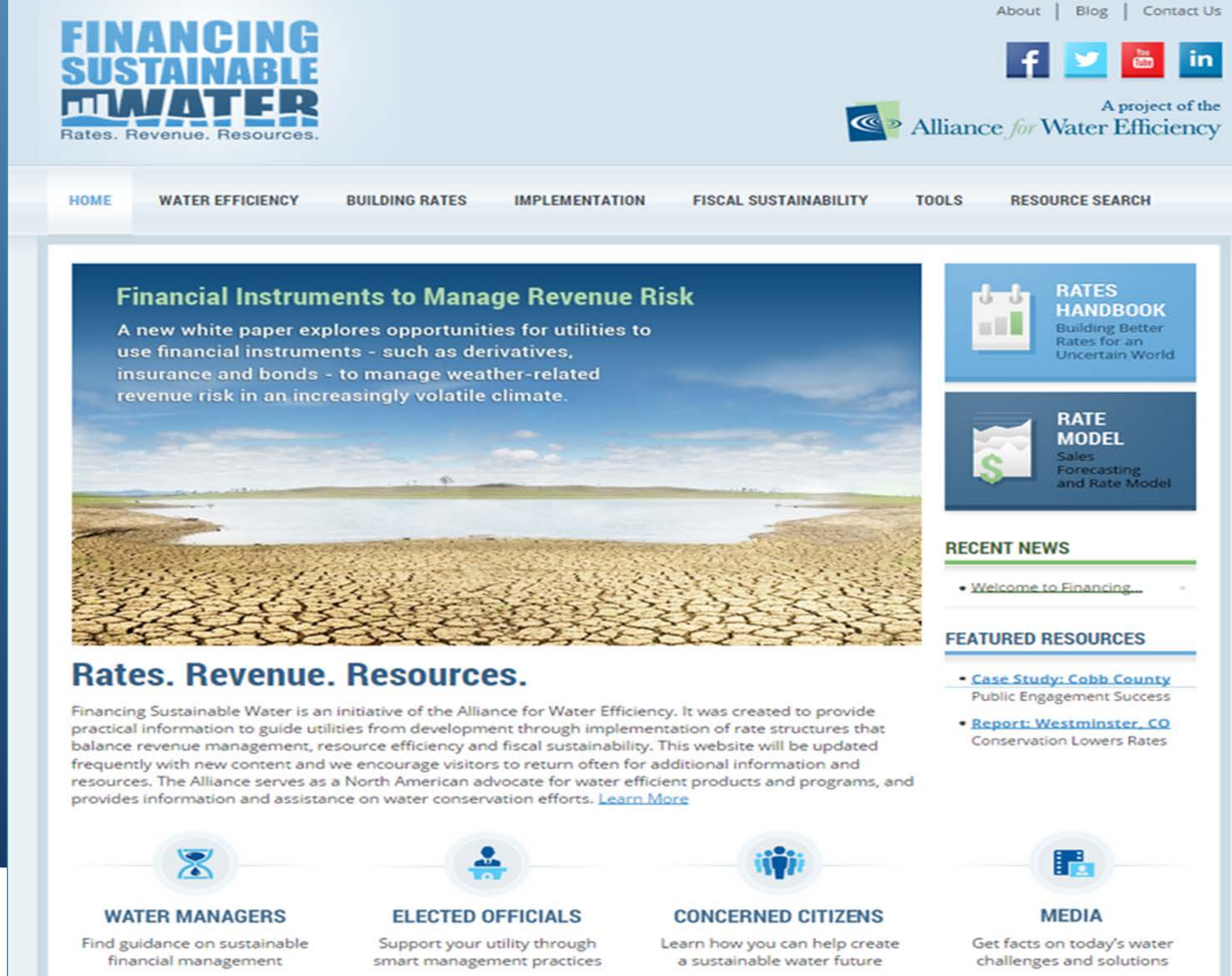
Customer Class	Units	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Single Family	AF	43,779	43,890	43,827	43,851	43,880	43,913	44,099	44,229	44,283	44,566	44,731	45,024
Multi Family	AF	3,304	3,308	3,296	3,291	3,288	3,267	3,254	3,250	3,250	3,258	3,260	3,259
Cll	AF	13,459	13,481	13,504	13,528	13,553	13,579	13,641	13,705	13,769	13,833	13,898	14,093
Irrigation	AF	6,729	6,748	6,767	6,787	6,806	6,825	6,864	6,902	6,940	6,979	7,017	7,075
Not in use	AF	0	0	0	0	0	0	0	0	0	0	0	0
Not in use	AF	0	0	0	0	0	0	0	0	0	0	0	0
Not in use	AF	0	0	0	0	0	0	0	0	0	0	0	0
Not in use	AF	0	0	0	0	0	0	0	0	0	0	0	0
Not in use	AF	0	0	0	0	0	0	0	0	0	0	0	0
Total	AF	67,289	67,336	67,394	67,447	67,507	67,572	67,827	68,087	68,252	68,632	68,906	69,359

Utility Revenues and Rates

CONSUMER MESSAGING: "WATER: WHAT YOU PAY FOR" VIDEO

CONSUMER MESSAGING: "WHY ARE MY WATER RATES GOING UP?" VIDEO

FINANCING SUSTAINABLE WATER WEBSITE



WHERE TO START ON THE RATES TASK?

- We recommend a one-day 7 hour Rates Workshop to provide solutions on methods for stabilizing revenue loss
- We will bring in Dr. Janice Beecher, Executive Director of the Institute of Public Utilities, an expert on rate setting and RAM's
- We will demonstrate how to use the free Sales Forecasting and Rates Model using a Connecticut example
- The workshop is very participatory, with panels such as local officials discussing how to get to "yes" on a rates increase
- AWE has held rates workshops in Colorado, California, Texas, Arizona and Massachusetts
- The Massachusetts workshop was sponsored by the Massachusetts Department of Conservation and Recreation
- After the workshop we can provide specific guidance to water utilities as follow-up

EVALUATING STATE LAWS AND REGULATIONS

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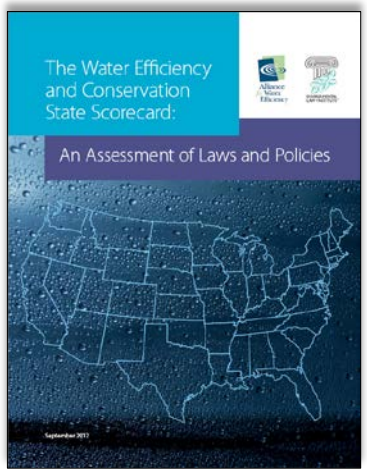
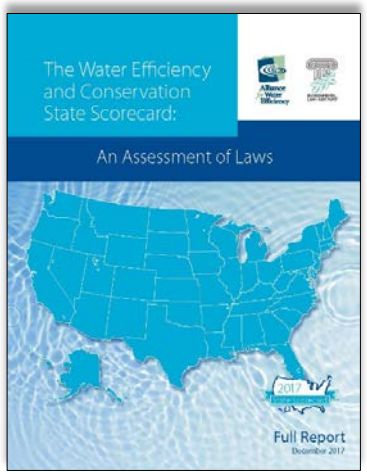
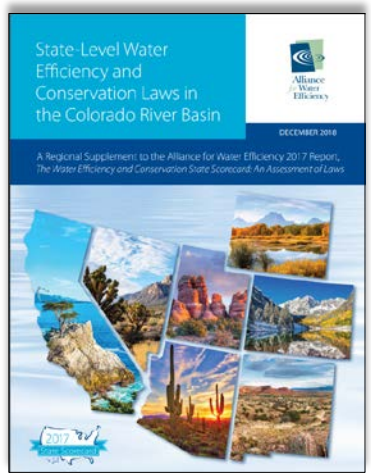
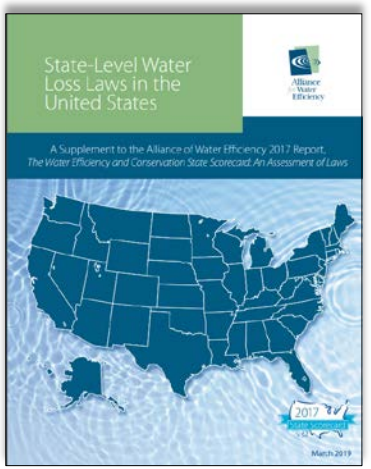
WATER EFFICIENCY AND CONSERVATION LAW AND POLICY

- 2012 Water Efficiency and Conservation State Scorecard
- 2017 Water Efficiency and Conservation State Scorecard
- 2018 State-Level Water Efficiency and Conservation Laws in the Colorado River Basin
- 2019 State-Level Water Loss Laws in the United States
- Direct work with states on policy review and recommendations
- Nevada adopted new laws in 2018 as a result

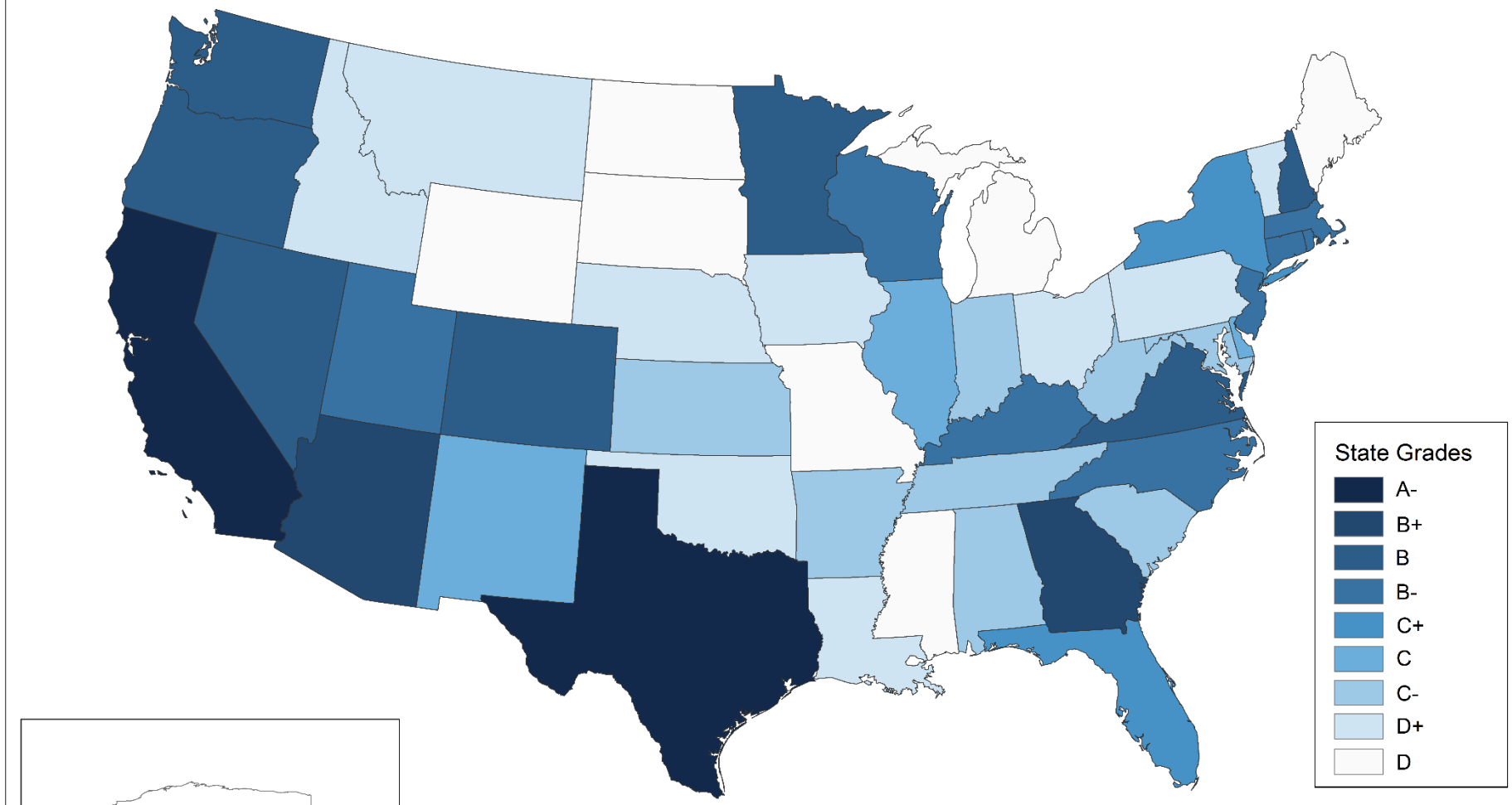








Water Efficiency and Conservation State Scorecard Grades (2017)



STATE SCORECARD QUESTIONS AND SCORES

Connecticut — Water Efficiency Scorecard — Grade: B-

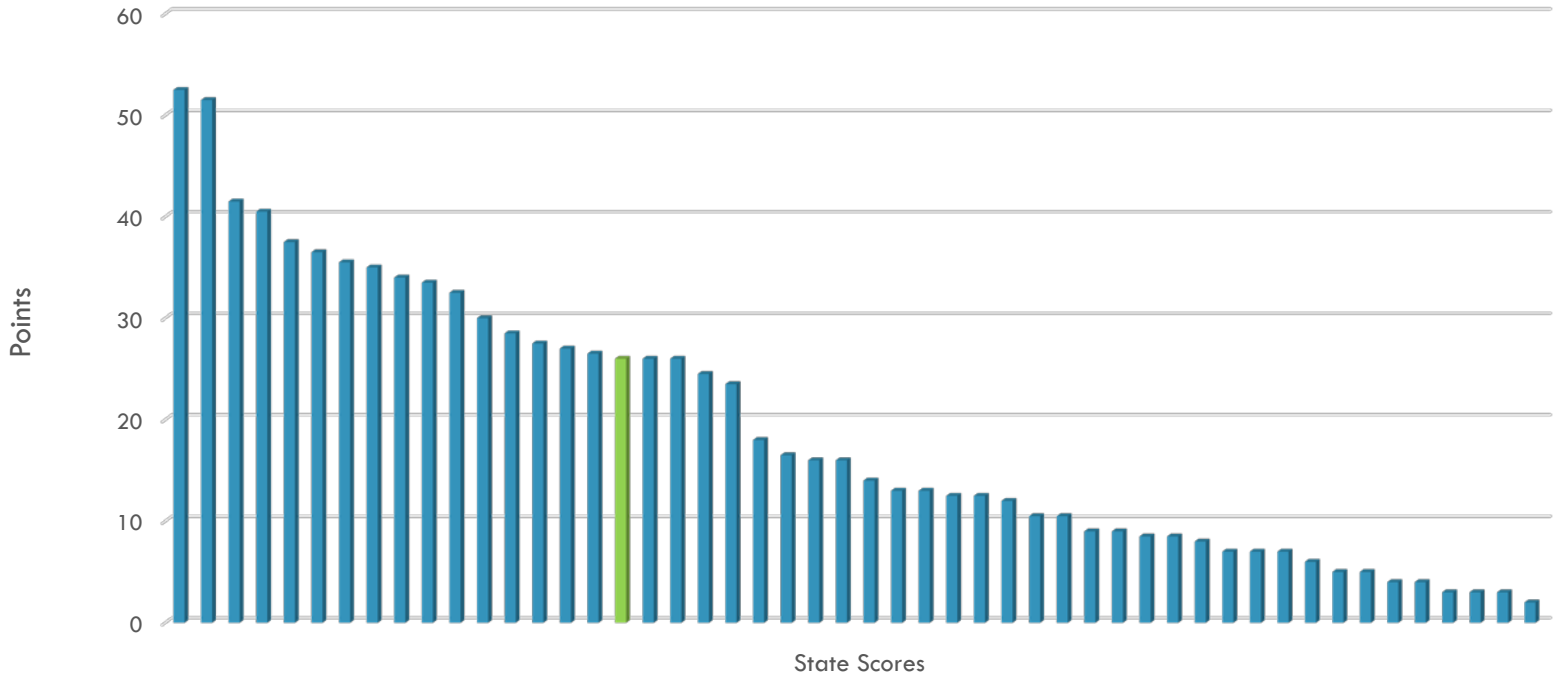
QUESTION		POINTS
1.	State agency in charge of drinking water conservation/efficiency?	2
2.	Water consumption law* for toilets?	0
3.	Water consumption law* for showerheads?	0
4.	Water consumption law* for urinals?	0
5.	Water consumption law* for clothes washers?	0
6.	Water consumption law* for pre-rinse spray valves?	0
7.	Building/plumbing codes require* water efficient products?	0
8.	Limitation on water loss in utility distribution systems?	3
9.	Water conservation is a condition of a water right permit?	7
10.	Water suppliers must develop a drought preparedness plan?	5
11.	Water suppliers must develop water conservation/efficiency plans?	8
12.	State offers financial assistance for urban water conservation?**	0
13.	State offers technical assistance for urban water conservation?	1
14.	Water connections that are part of a public supply must be metered?	0
15.	Water suppliers must implement volumetric billing?	0
16.	Rate structures must encourage water conservation?	0
	TOTAL	26

** Requirement is more stringent than the federal standard*

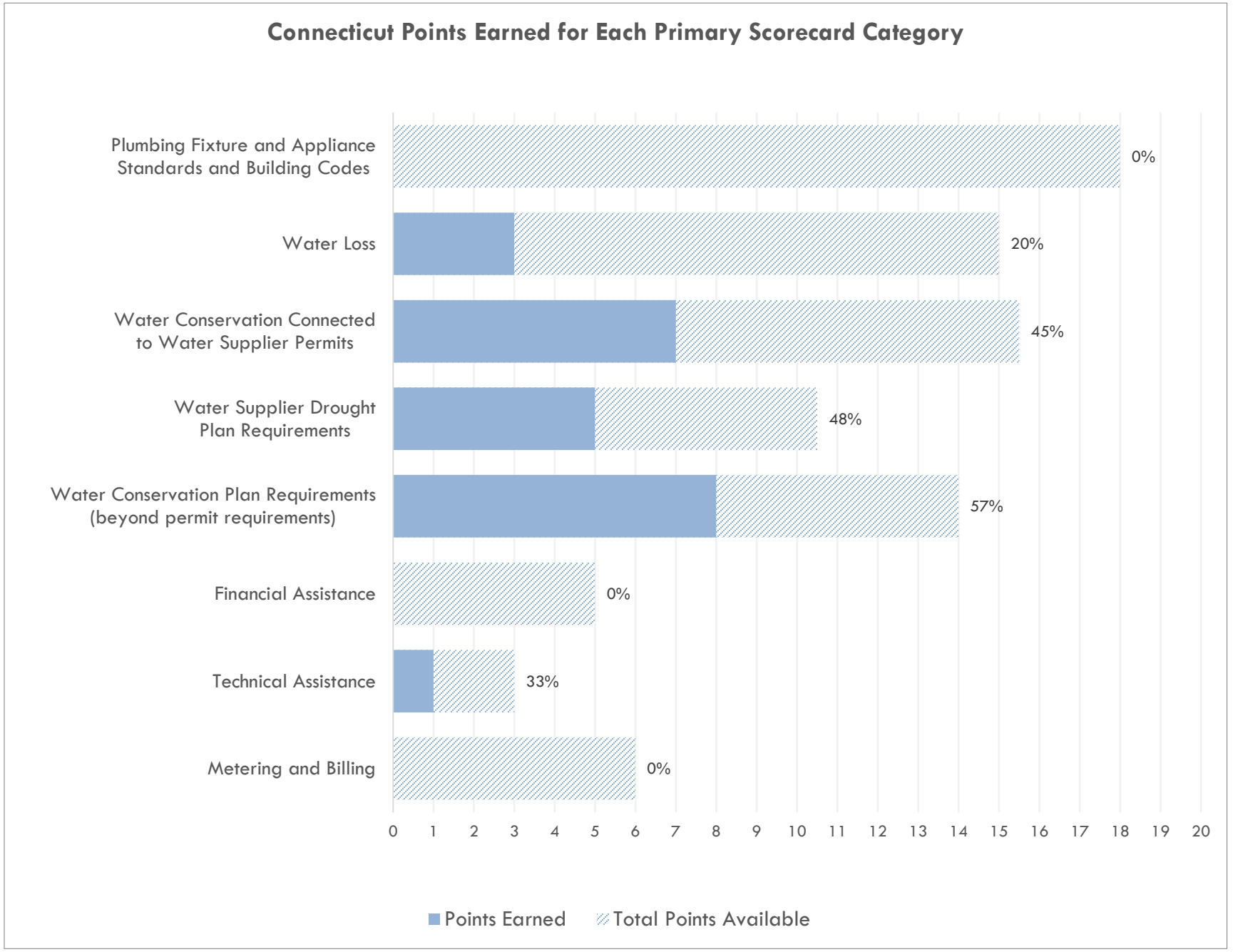
*** Beyond Drinking Water State Revolving Funds*

CONNECTICUT 2017 STANDING

- Ranked in top 17 out of 50
- 26 points (average was 19)
- “B-” Grade
- Tied with UT and NC



SUCCESS AND OPPORTUNITY FOR IMPROVEMENT



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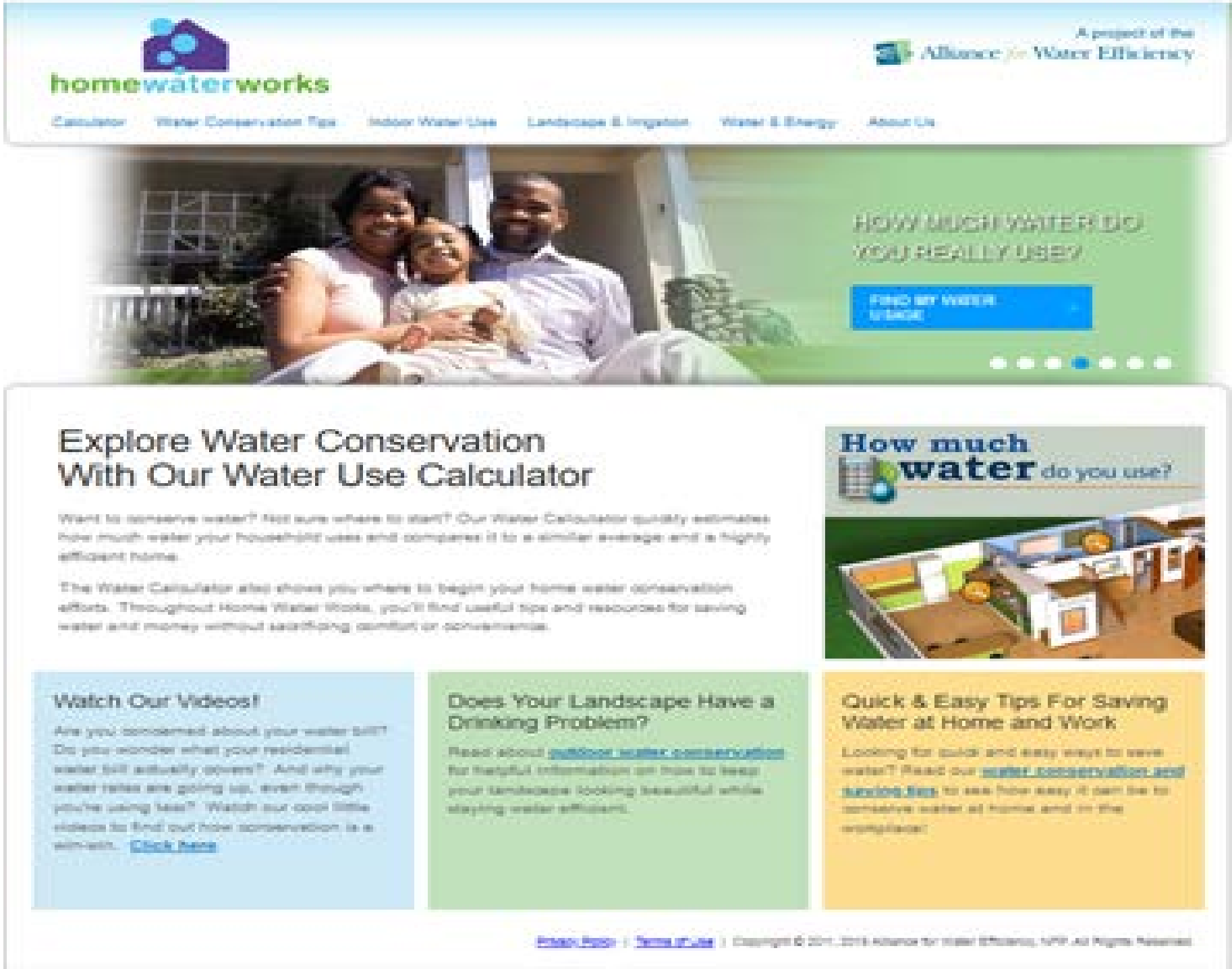
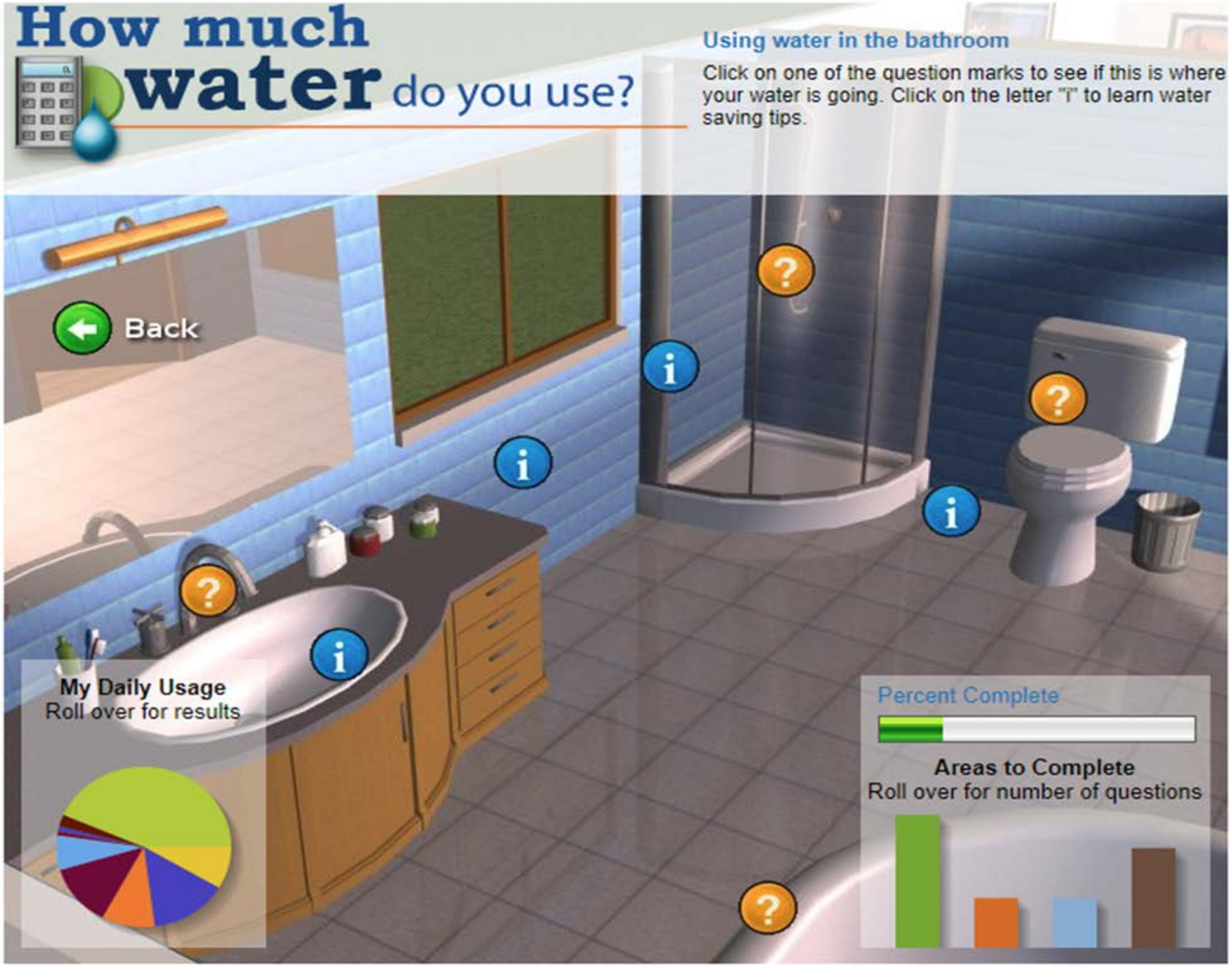
WATER CONSERVATION EDUCATION OUTREACH

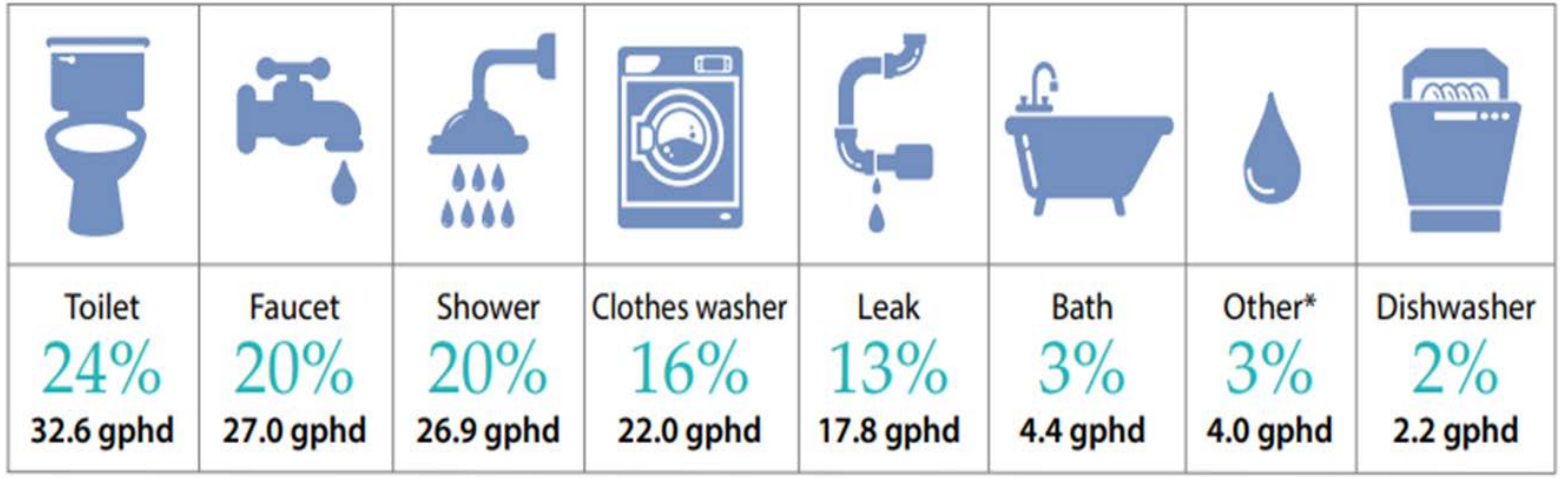
HOME WATER WORKS WEBSITE



WATER USE CALCULATOR



PROVIDING USEFUL INFORMATION TO THE CONSUMER



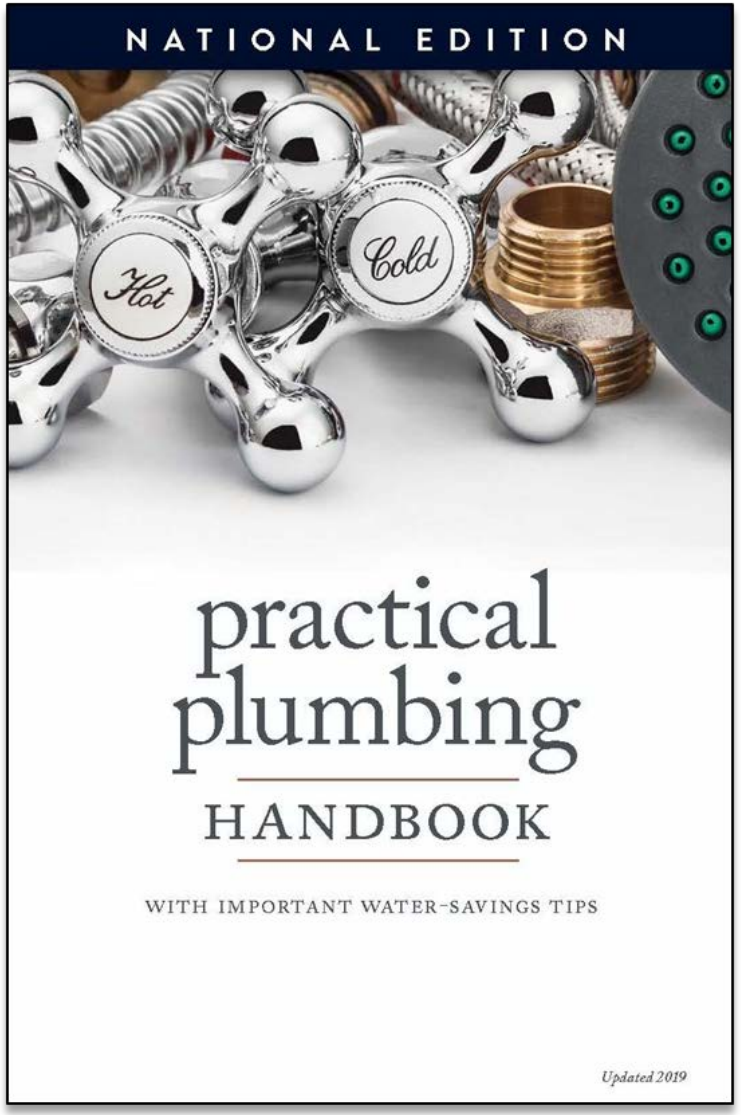
Toilet	Faucet	Shower	Clothes washer	Leak	Bath	Other*	Dishwasher
24%	20%	20%	16%	13%	3%	3%	2%
32.6 gphd	27.0 gphd	26.9 gphd	22.0 gphd	17.8 gphd	4.4 gphd	4.0 gphd	2.2 gphd

* The "Other" category includes evaporative cooling, humidification, water softening, and other uncategorized indoor uses.

https://www.waterrf.org/research/projects/residential-end-uses-water-version-2

PROVIDING USEFUL INFORMATION TO THE CONSUMER

- Consumer-oriented DIY Guide
- Covers toilets, faucets, showerheads, clothes washers, dishwashers, and irrigation systems
- Also discusses meters, water pressure, water heaters, pools & spas, and water softeners
- Helps consumers identify and repair leaks
- Provides installation and maintenance tips
- Handy 4”x6” size



PROVIDING MOTIVATIONAL MESSAGES TO THE CONSUMER

PROVIDING MOTIVATIONAL MESSAGES TO THE CONSUMER

INCENTIVES FOR OUTDOOR WATER CONSERVATION MEASURES

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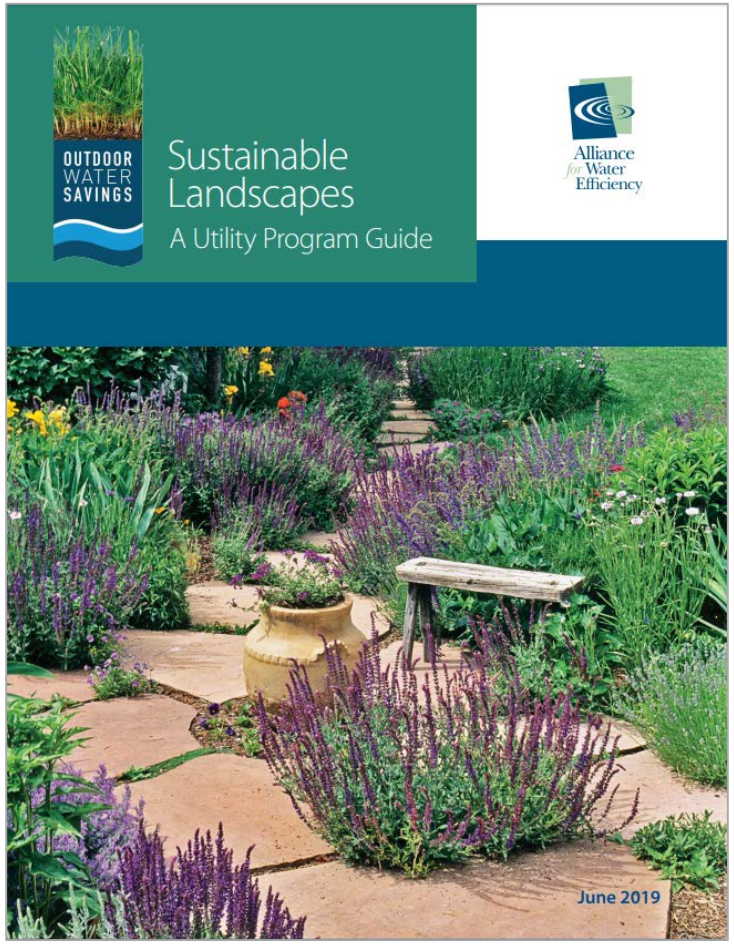
SUSTAINABLE LANDSCAPES: A UTILITY PROGRAM GUIDE

- AWE's Landscape transformation study found that customers want help from their utilities, so this guide is targeted to utilities just getting started or those enhancing existing programs
- Organized into two sections:
  1. General considerations
  2. Considerations for specific types of outdoor landscape programs
- Features utility program examples with lessons learned



QUESTIONS FOR DISCUSSION

Given the COVID-19 pandemic, an in-person rates workshop cannot be held much before the Fall of 2020 or even the Spring of 2021.

1. Shall we wait until we can do it then? We believe an in-person workshop provides more opportunity for utilities to ask questions and participate in discussions.
2. If you prefer not to wait that long, should we attempt this rates workshop in two virtual sessions of 2 hours each? That unfortunately would not be the complete program.
3. While we wait we could start immediately om the state law and policy review. Or would you prefer that we do the tasks in the order given to us?
4. How shall we structure stakeholder input into the process?

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Contact: maryann@a4we.org