

# Water Efficiency: *Issues, Opportunities, and Challenges*

Mary Ann Dickinson  
President and CEO

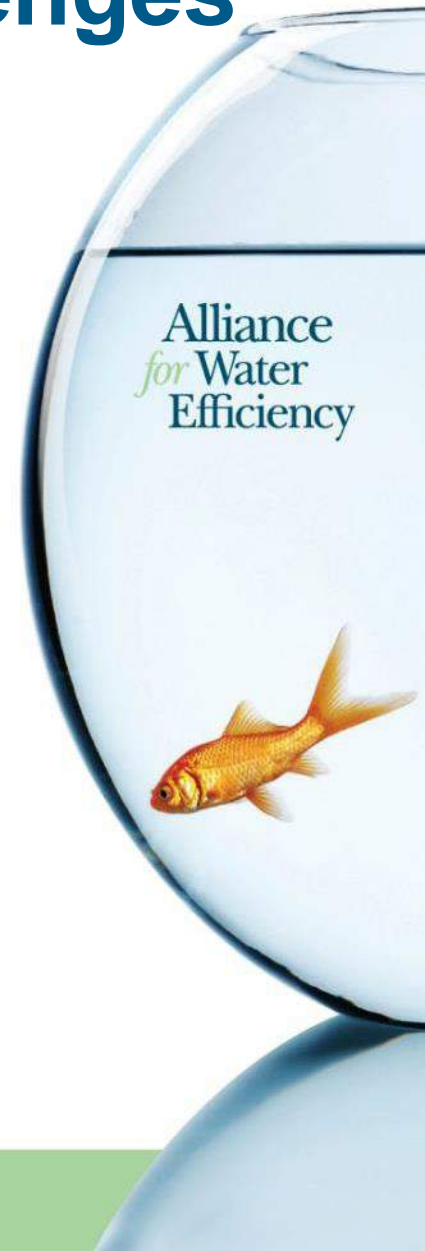
A VOICE AND  
A PLATFORM  
PROMOTING THE  
EFFICIENT AND  
SUSTAINABLE  
USE OF WATER



Alliance *for* Water Efficiency

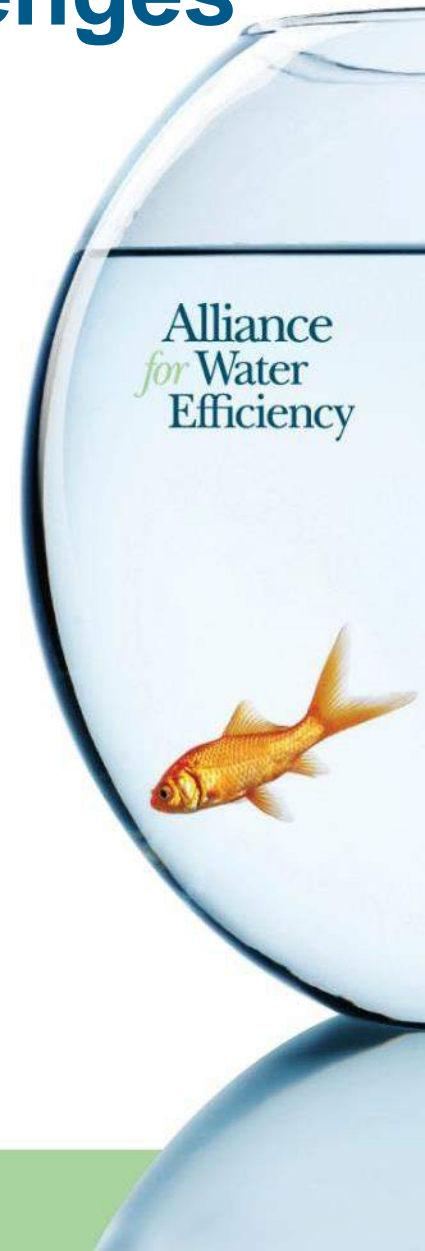
# Issues, Opportunities & Challenges

1. Water efficiency has multiple benefits.
2. Water efficiency is cost effective but reduced water sales are helping rates rise.
3. Water/Energy policy not connected.
4. Water/Land Use not connected.
5. Inconsistent public policy on water efficiency.
6. Customers need better messaging.



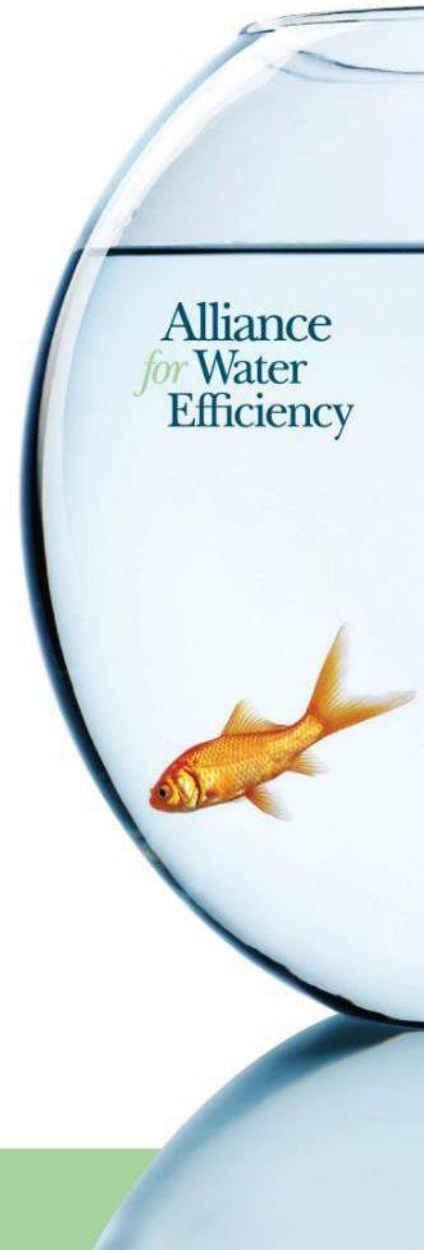
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# Water Efficiency Benefits

- **Drought:** immediate savings during scarcity.
- **Planning:** lessens gap between growing demand and dwindling water supply.
- **Environmental:** provides base flows for streams and wetlands, sustainable GW.
- **Energy:** reduces need for electricity, with resulting reduction in greenhouse gases.
- **Economic:** avoids higher expenses for supply or treatment.
  - *A quarter trillion dollars by the year 2020*
  - *Deferral of facilities will save millions*



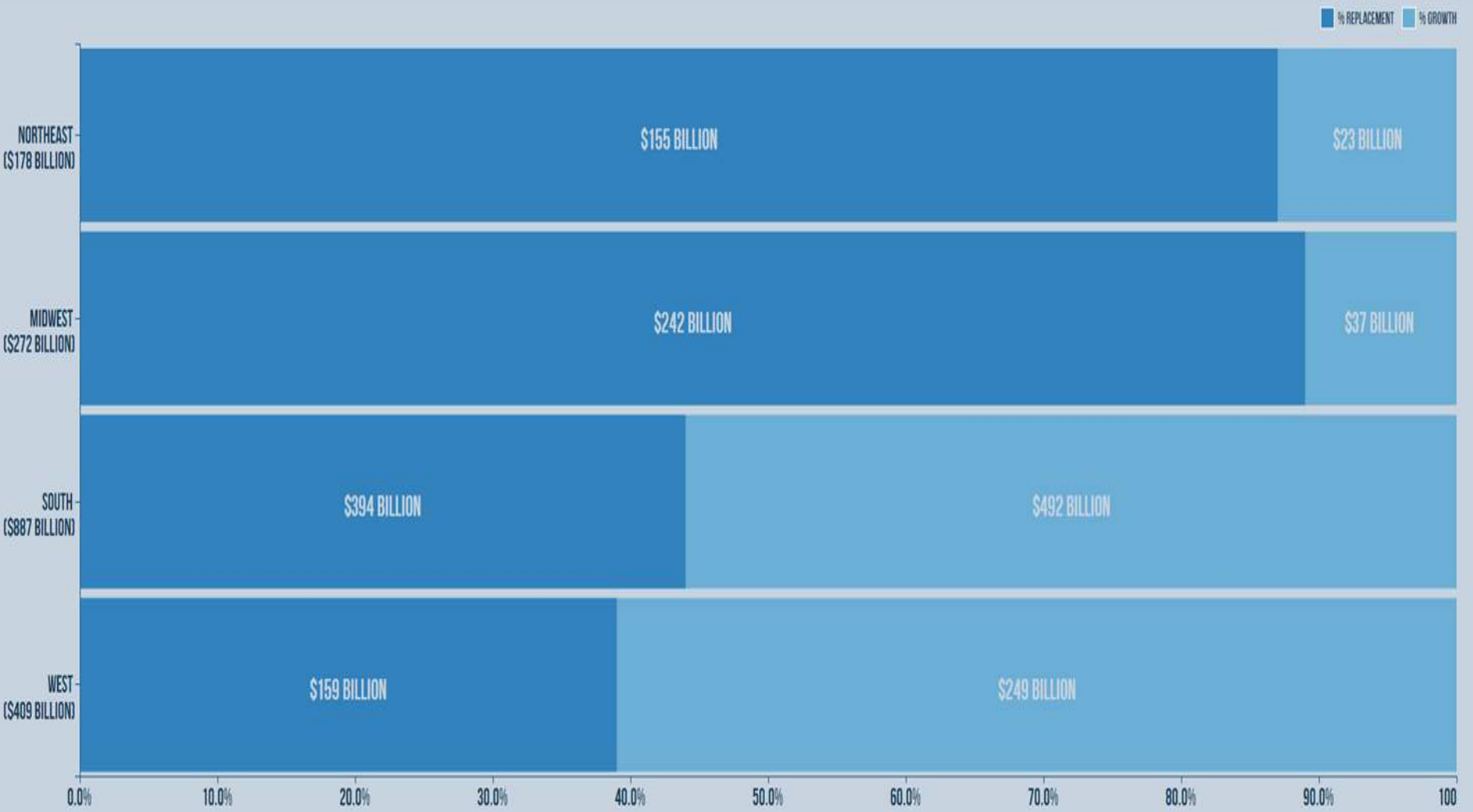


NAVIGATION MENU

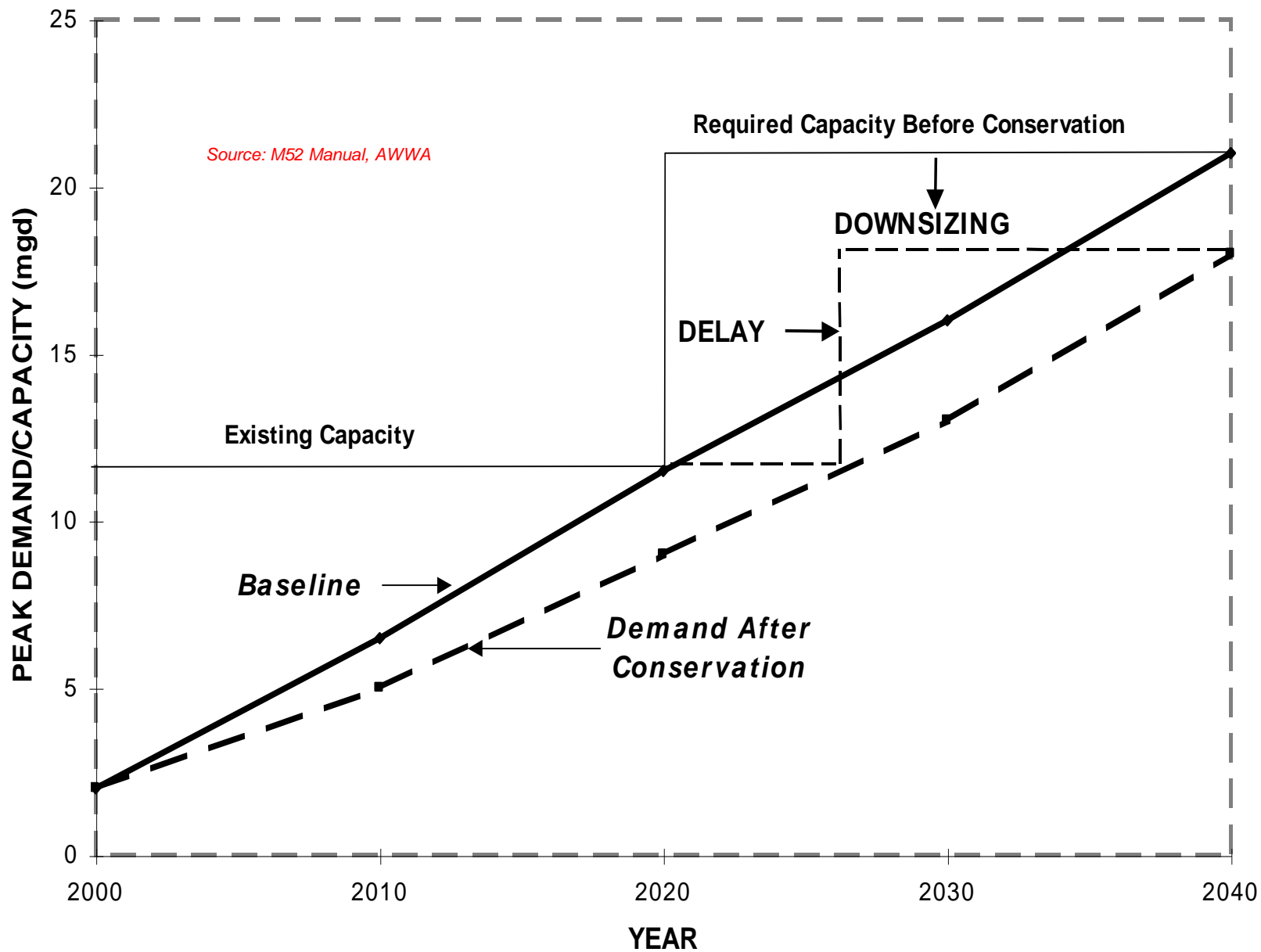
SHARE



# INVESTMENT NEEDS FOR U.S. WATER MAINS BY REGION

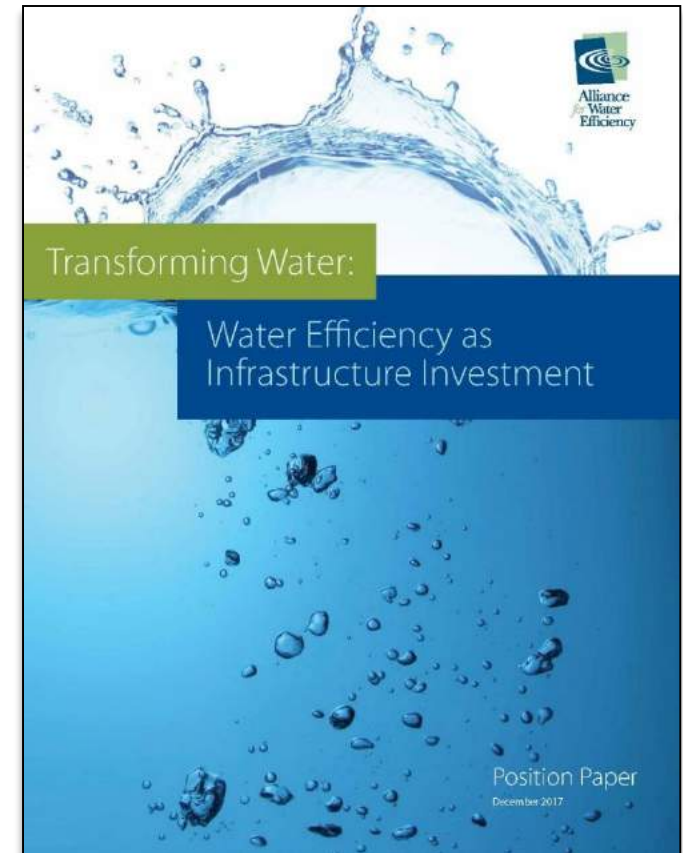


Source: American Water Works Association, "Buried No Longer" (2012)



# National Investment Benefits

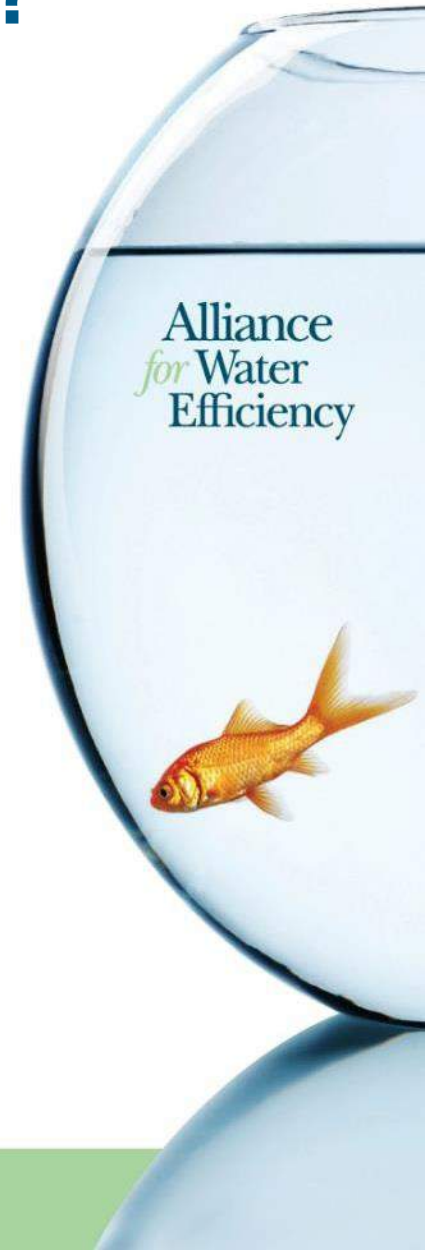
- Analysis by AWE of national economic benefit of water efficiency investments.
- Economic output benefits range between \$2.5 and \$2.8 billion per billion dollars of direct investment.
- GDP benefits range between \$1.3 and \$1.5 billion per billion dollars of direct investment.
- Employment potential ranges between 120,000 and 260,000 jobs per \$10 billion dollars of direct investment.





# \$10 Billion in Water Efficiency?

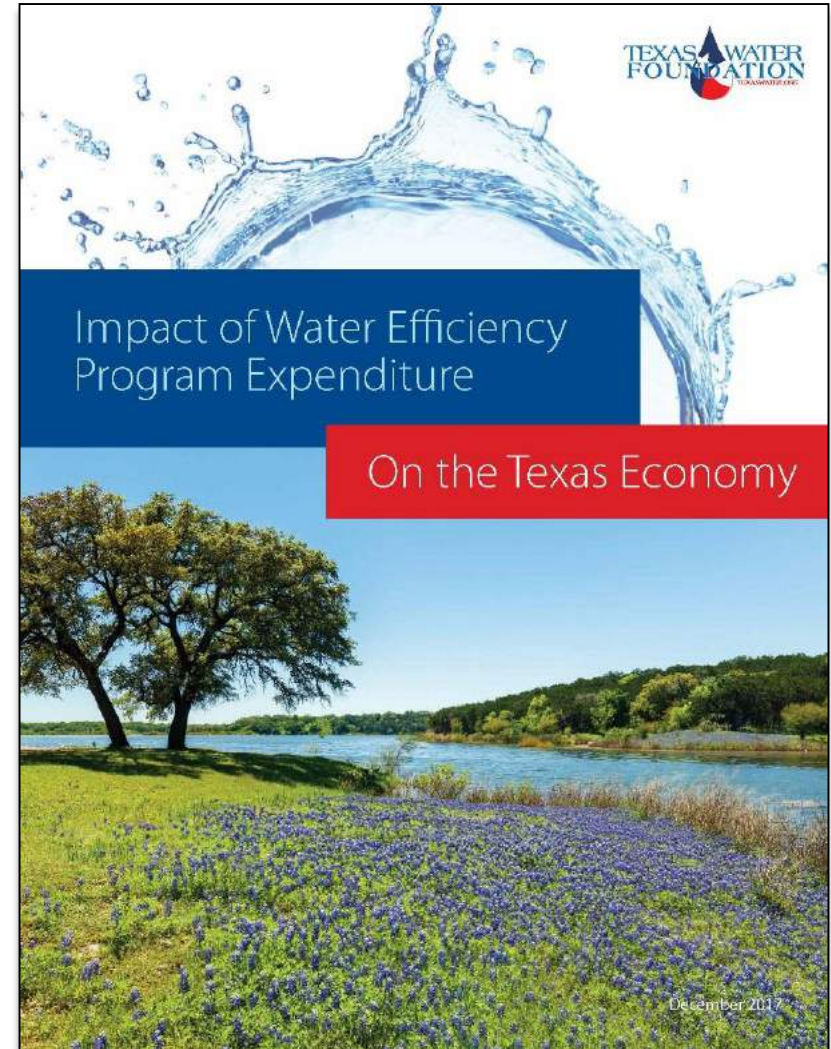
1. Can save between 6.5 and 10 Trillion gallons of water.
2. Can be deployed in short time frames.
3. Can be readily scaled according to need.
4. Can be implemented in lower-income areas where appliance stocks tend to be older and less efficient.
5. Can have long-term economic, social, and environmental benefits.
6. Are “no-regret” investments.





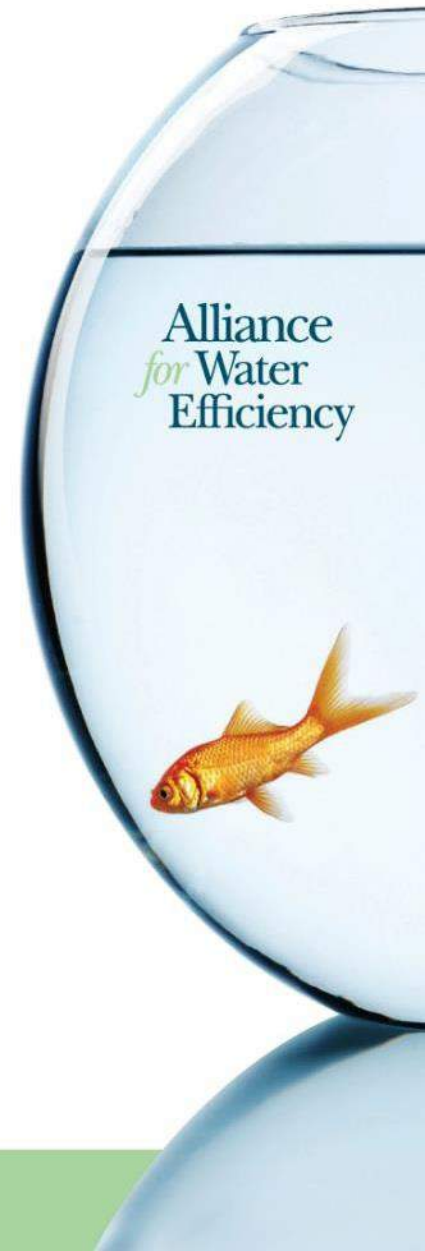
# Texas Report

- Published December, 2017 by AWE and Texas Water Foundation.
- \$2 Billion analyzed.
- Each dollar of direct investment in water use efficiency programs adds \$1.3 to state output and \$0.8 to gross state product.
- Each million dollars of direct investment supports 8.7 job-years in the state.



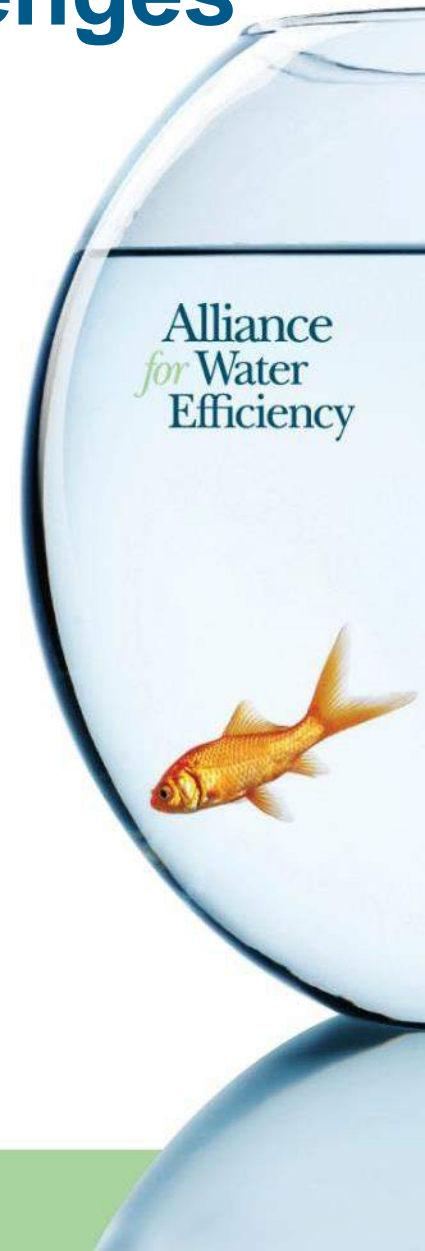
# Summary Results for Texas

- \$2 billion spent over 5 years would generate approximately \$2.6 billion in state output and support 17,400 job-years.
- The corresponding increase in gross state product would be \$1.6 billion.
- Statewide water use would be reduced by 300 to 400 million gallons per day (MGD) with water savings having an average duration of about 10 years.
- This is roughly enough water to serve 1.2 to 1.6 million single-family homes in Texas for 10 years.



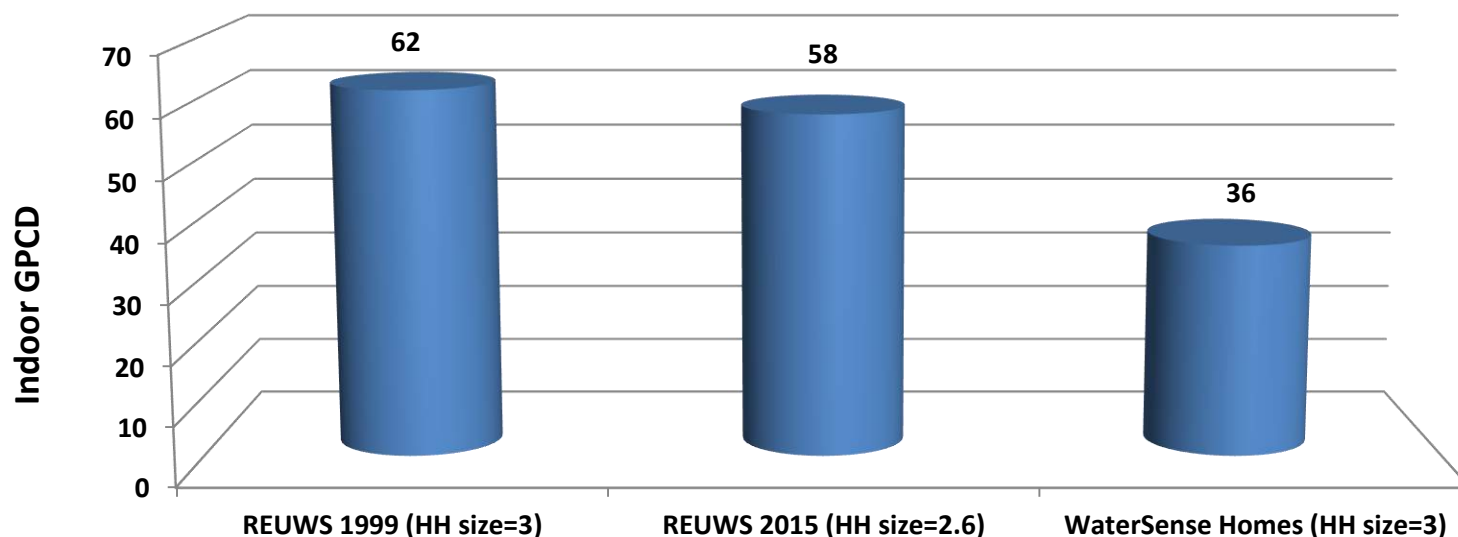
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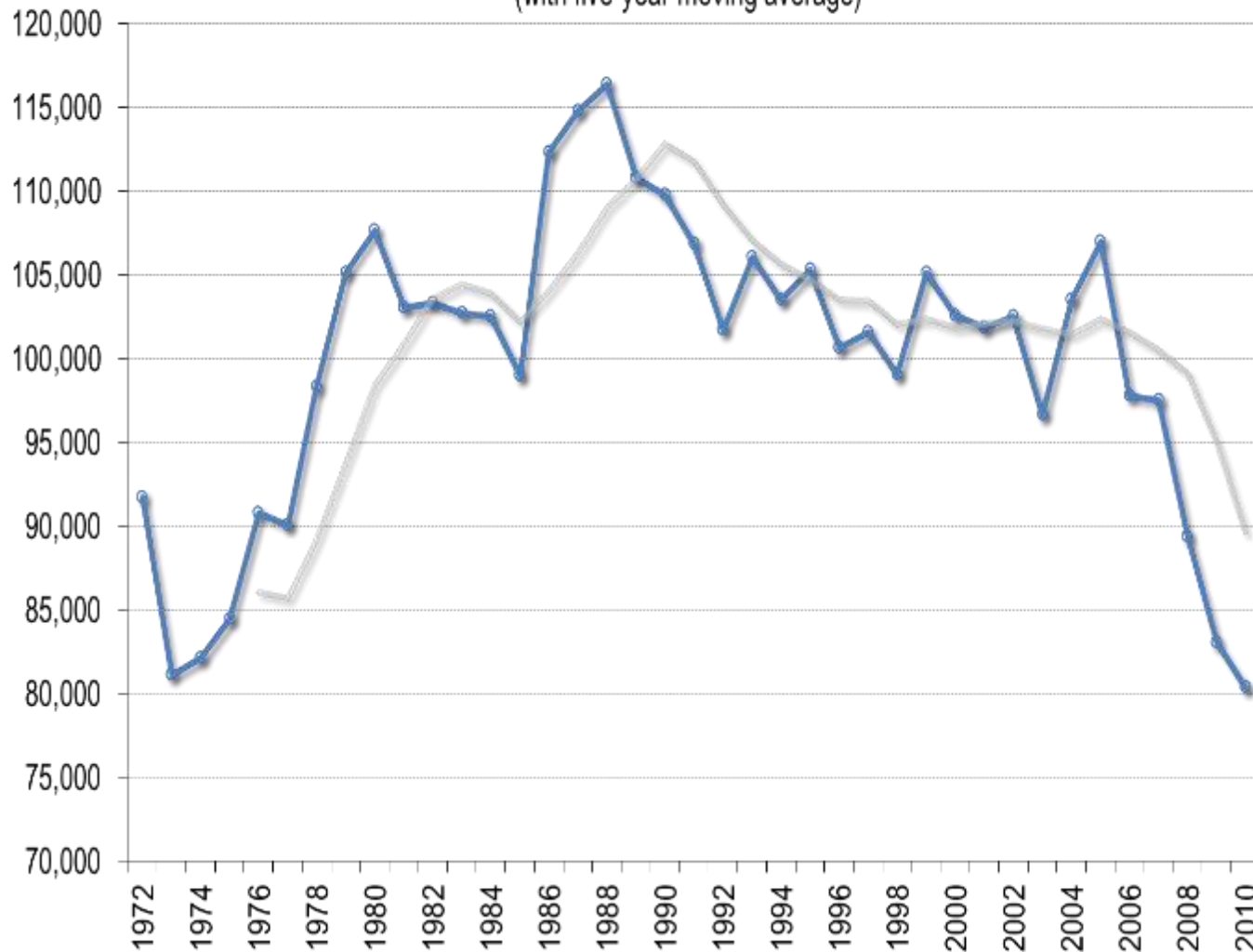
# Growing More Water Efficient

- North America still the highest gpcd in world -- even among developed countries -- but we are improving.



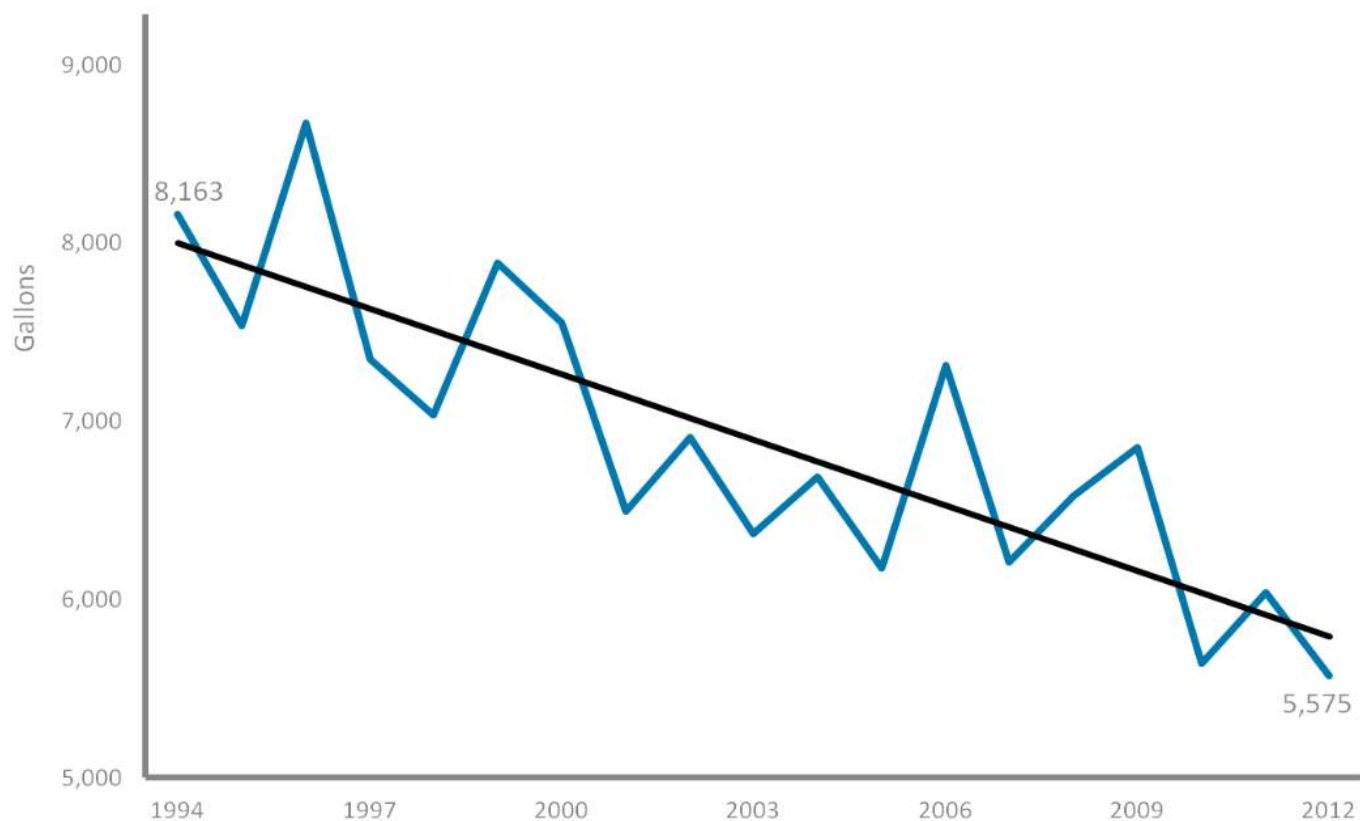
# Residential Water Sales

Annual residential gallons sold per residential customer (NAWC)  
(with five-year moving average)

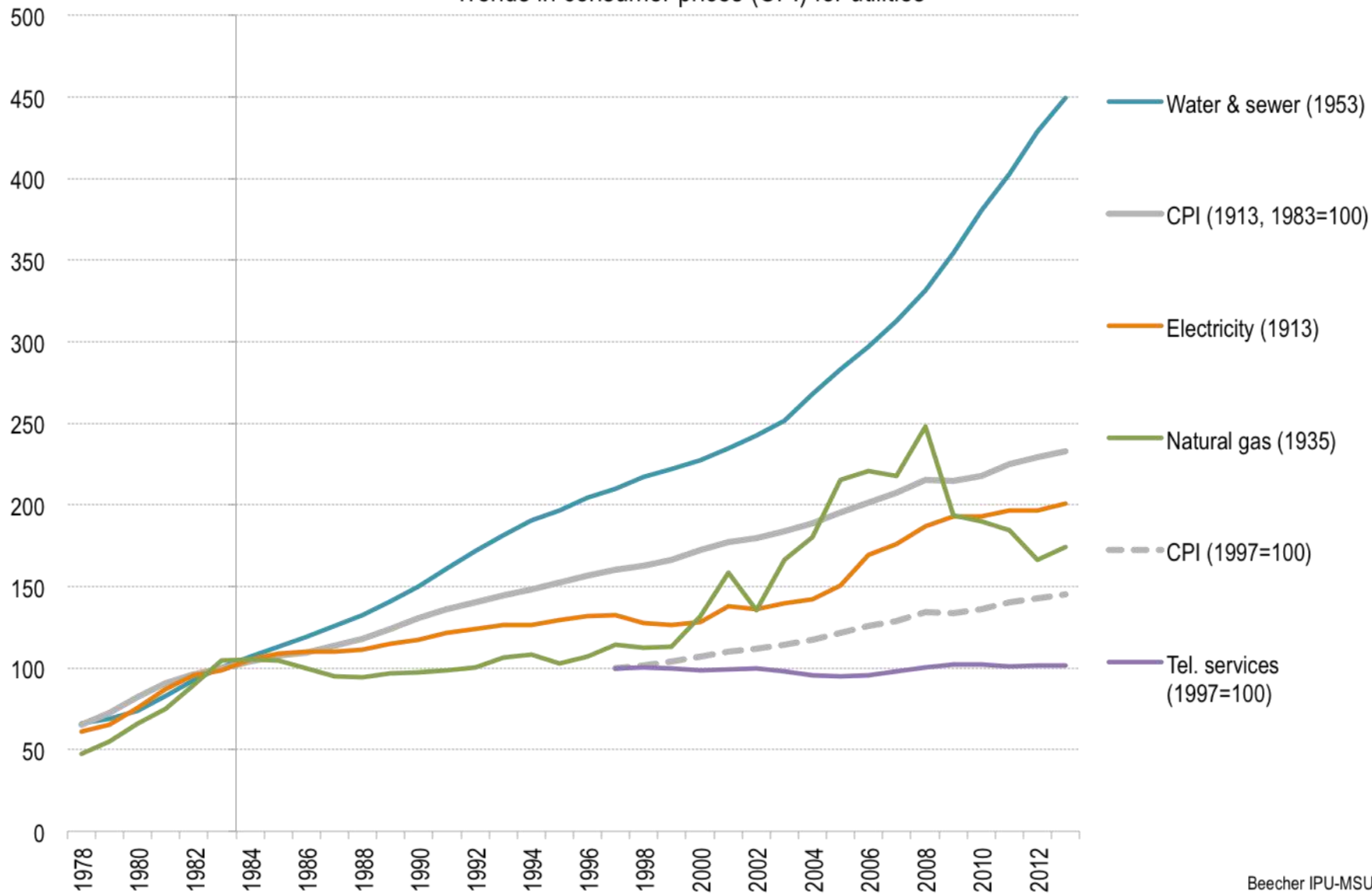


# Trends in San Antonio, Texas

**Figure 4: Monthly Average Residential Indoor (winter) Usage in Gallons 1994 – 2012**



# Trends in consumer prices (CPI) for utilities





# The Political Reality

- We don't like to revise our rates.
- It is politically unpopular, so rates are revised as infrequently as possible.
- Inevitable rate increases are postponed until it is a crisis.
- Conservation is often blamed for financial challenges – even when there are no active conservation programs in place.
- This sends the wrong message to consumers.



**THE GLOBE AND MAIL** 

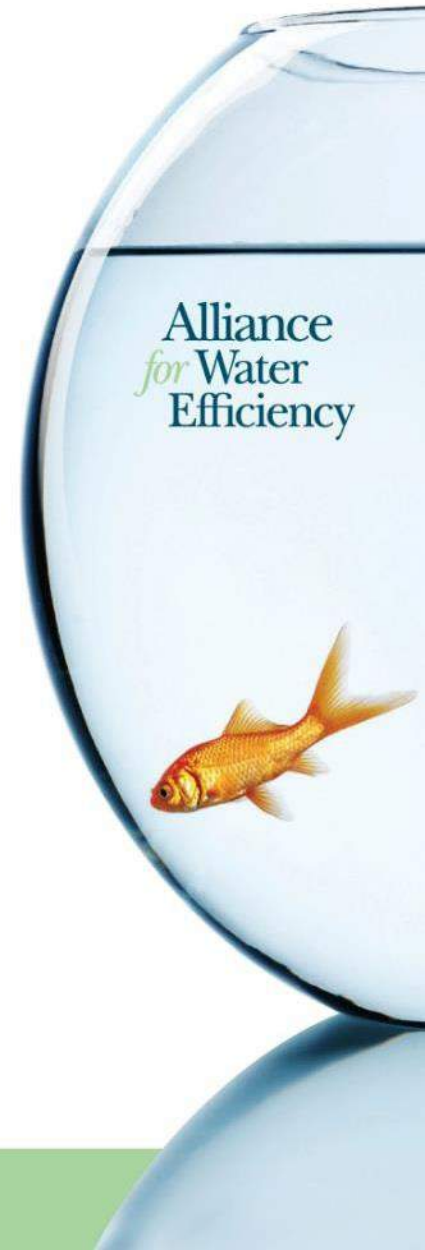
Reduced water use drains Toronto's funds for infrastructure upgrades

## Raleigh Public Record

Raleigh's Water Conundrum:  
Conservation v. Rates

# Isn't this a Success Story?

- *Yes, but with unfortunate side effects in the short term.*
- Lowered demand immediately means reduced sales revenue.
- Reduced sales revenue can mean not fully collecting fixed costs unless adjusted.
- Revenue stability therefore becomes an issue – *and conservation is often blamed.*
- Left untreated, unstable revenue collection can affect bond ratings.



## *Texans Answer Call to Save Water, Only to Face Higher Rates*

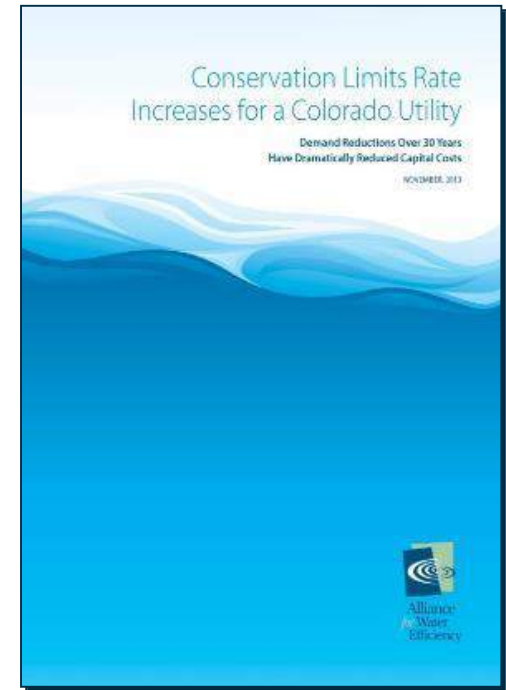
By NEENA SATIJA FEB. 8, 2014



“The losses have prompted credit ratings agencies to look closer at the finances of public utilities in Texas. One agency, Fitch, downgraded some of Fort Worth’s water and sewer debt last year, and last week the firm downgraded the debt of the city’s wholesale water supplier. **Fort Worth lost \$11 million last year because of water conservation.**”

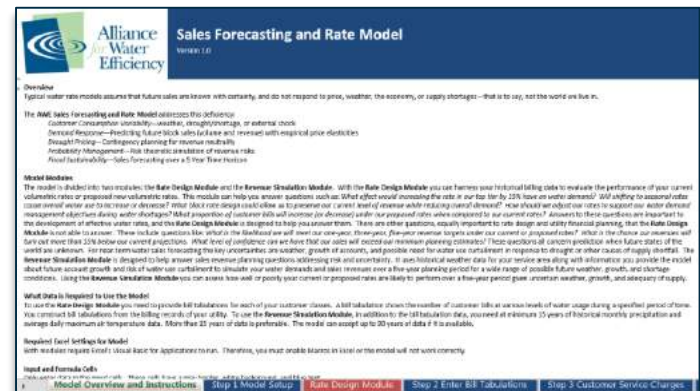
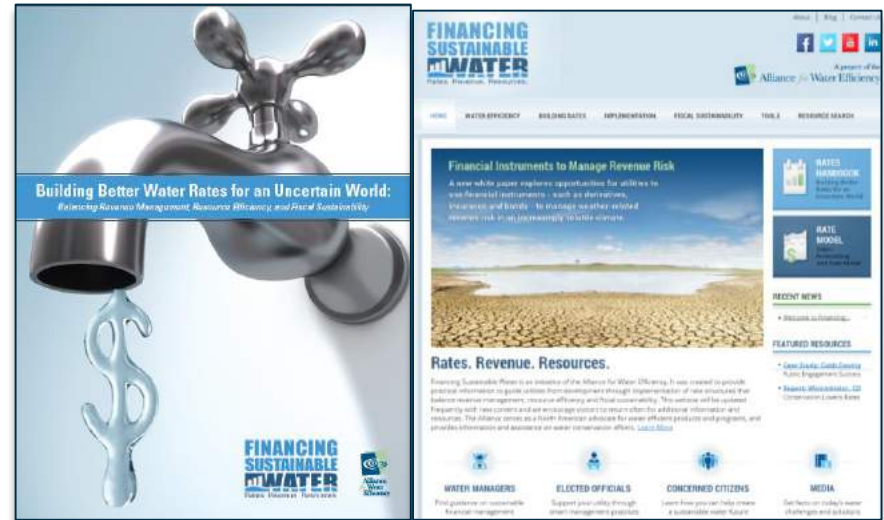
# Westminster's Story

- Citizens complaining that they are being asked to conserve when rates just go up.
- Westminster reviewed marginal costs for future infrastructure if conservation had **not** been done.
- Since 1980, conservation has saved residents and businesses 80% in tap fees and 91% in rates compared to what they would have been without conservation.
- 4 reports total since then.
- All Reports posted at **[www.financingsustainablewater.org](http://www.financingsustainablewater.org)**



# 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: An 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**





## Financial Instruments to Manage Revenue Risk

A new white paper explores opportunities for utilities to use financial instruments - such as derivatives, insurance and bonds - to manage weather-related revenue risk in an increasingly volatile climate.



## Rates. Revenue. Resources.

Financing Sustainable Water is an initiative of the Alliance for Water Efficiency that was created to provide practical information to guide utilities from development through implementation of rate structures that balance revenue management, resource efficiency and fiscal sustainability. Headquartered in Chicago, the Alliance serves as a North American advocate for water efficient products and programs, and provides information and assistance on water conservation efforts. [Learn More](#)



### WATER MANAGERS

Sustainable financial management guidance



### ELECTED OFFICIALS

Set your water utility up for success



### CONCERNED CITIZENS

Learn how you can help create a sustainable water future



### MEDIA

Get key facts on today's water challenges



### RATES HANDBOOK

Building Better Rates for an Uncertain World



### RATE MODEL

Sales Forecasting and Rate Model

### RECENT NEWS

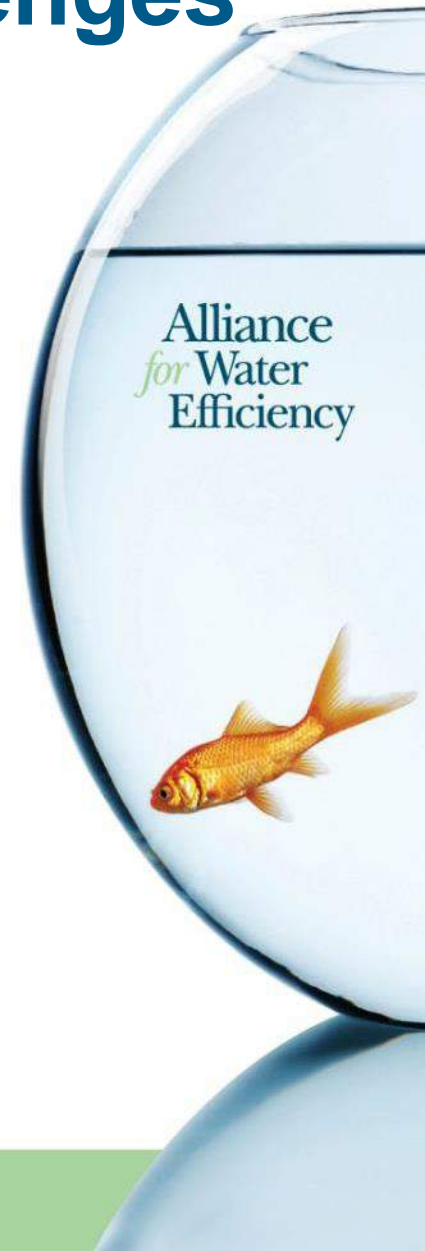
- [Water or Water Service?](#) »
- [Demand Forecasting 101](#) »

### FEATURED RESOURCES

- [Case Study](#)  
Budget-based Rates
- [Case Study Hover Example](#)  
New case study title here

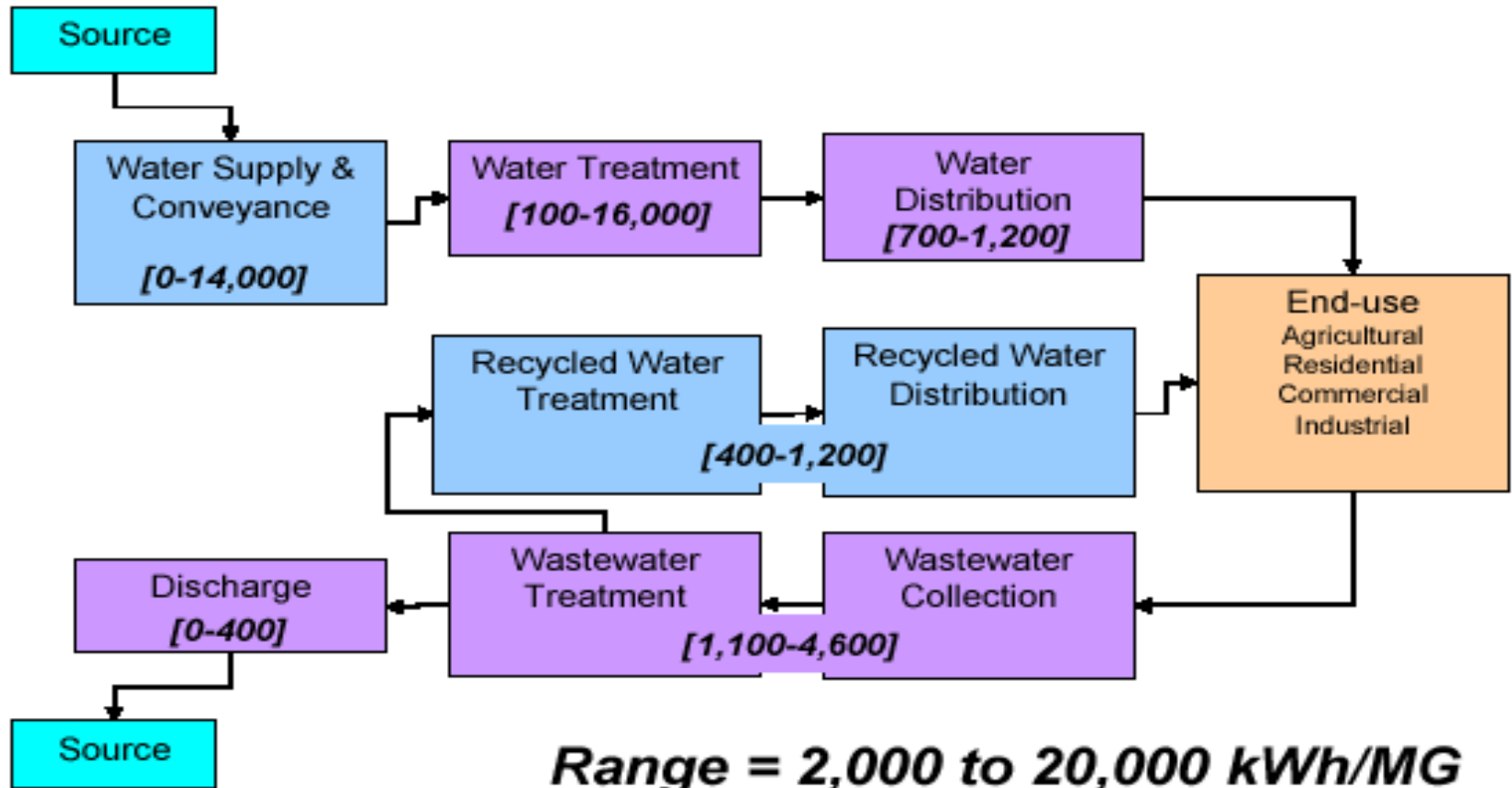
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# Water-Energy Intensities

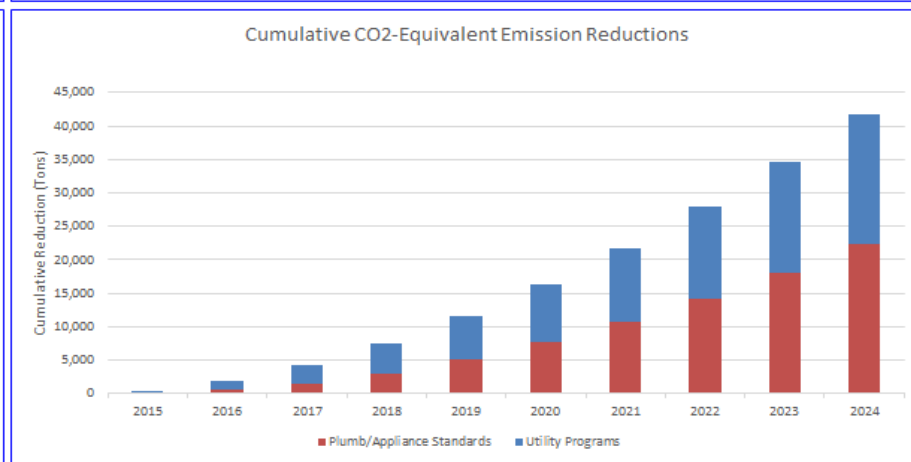
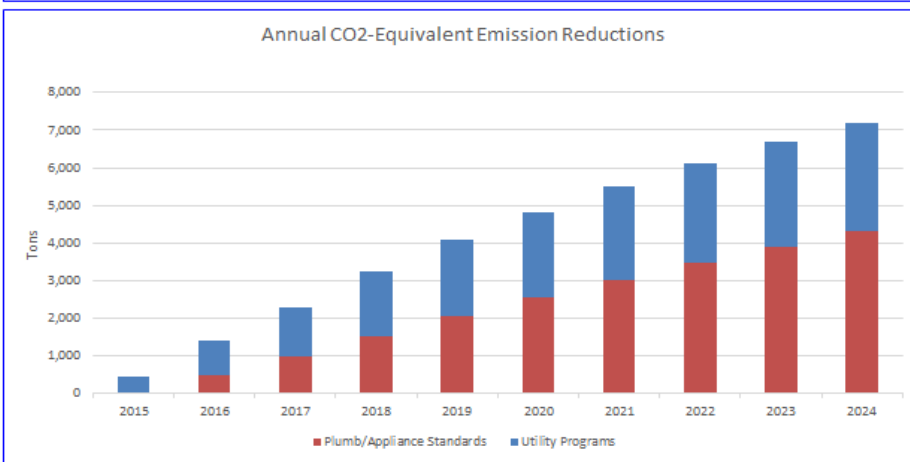
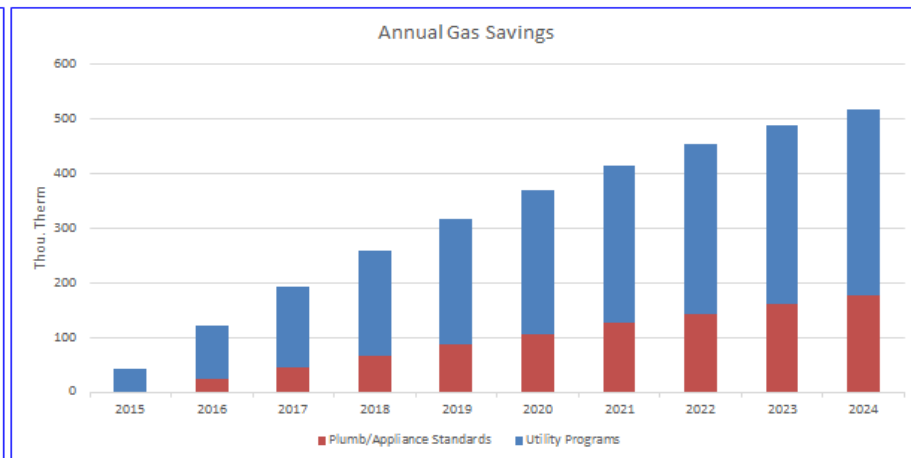
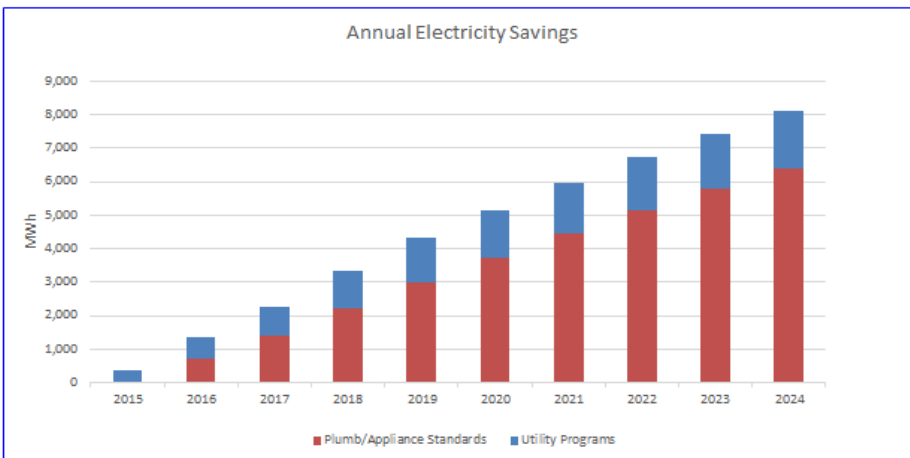


Source: California Energy Commission, 2005

# AWE CONSERVATION TRACKING TOOL: GHG REDUCTION BENEFITS WORKSHEET

**GHG reduction:** This worksheet summarizes the calculated reduction in CO2-equivalent emissions due to plumbing/appliance standards and planned conservation. Below the charts are tables that summarize the results in five-year and annual increments.

Years to Display:



## Summary Calculated Energy Savings

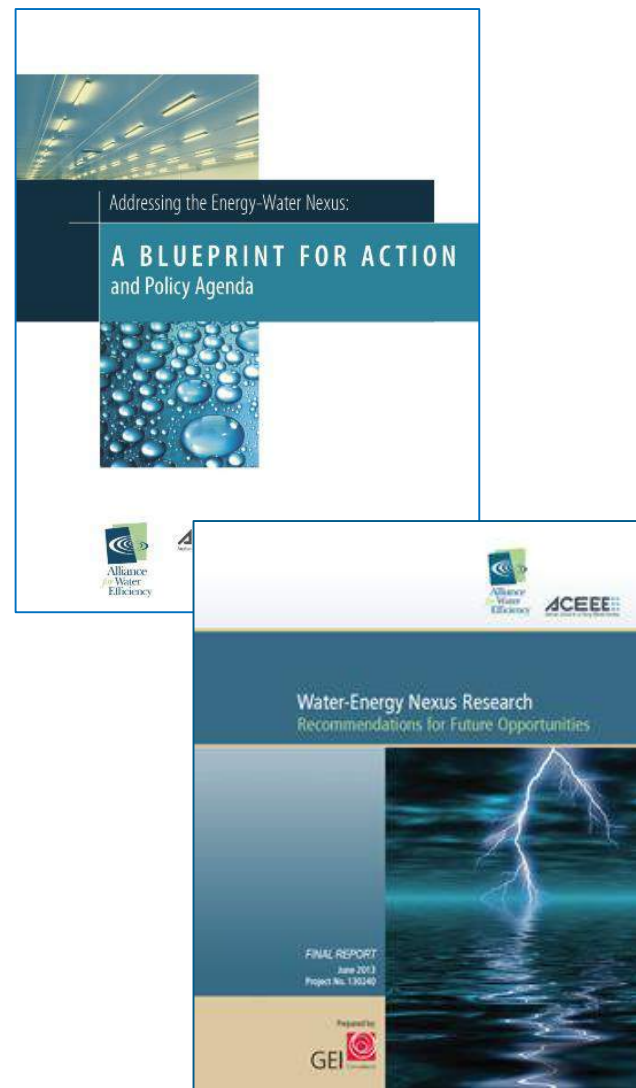
Total Annual Energy Savings	Units	2015	2020	2025	2030	2035	2040	2045	2050
Electricity	MWh	374	5,163	8,713	11,541	12,506	13,490	14,526	15,191
Natural Gas	Thou. Therm	43	370	548	673	522	451	411	378

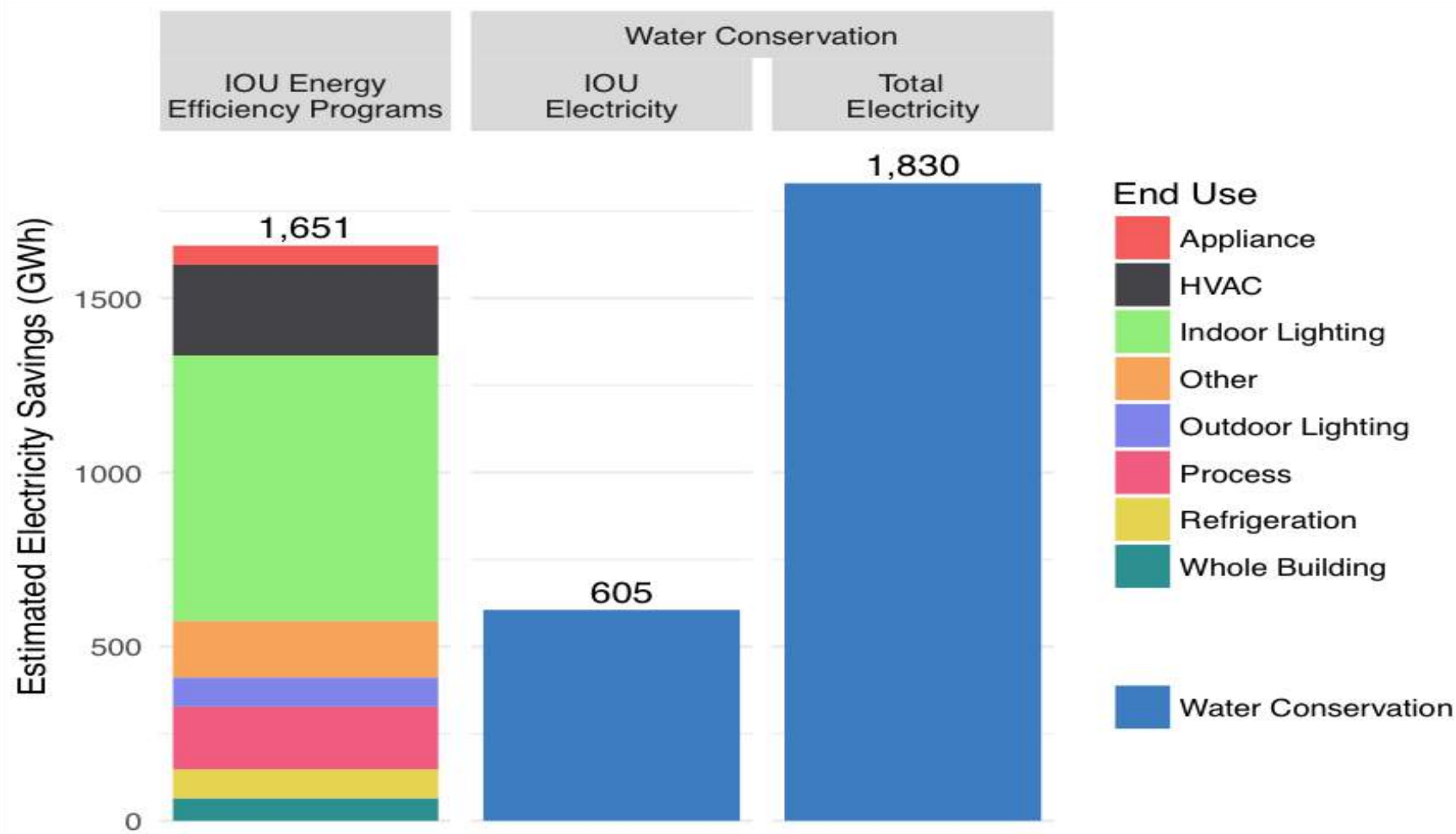
Cumulative Energy Savings Since 2015	Units	2015	2020	2025	2030	2035	2040	2045	2050
Electricity	MWh	374	16,841	53,768	106,105	166,587	232,144	302,784	377,469
Natural Gas	Thou. Therm	43	1,304	3,724	6,854	9,730	12,104	14,235	16,190

Value of Annual Energy Savings	Units	2015	2020	2025	2030	2035	2040	2045	2050
Electricity	Thou. 2014	\$56	\$784	\$1,340	\$1,797	\$1,972	\$2,154	\$2,348	\$2,487
Natural Gas	Thou. 2014	\$63	\$559	\$836	\$1,041	\$818	\$715	\$660	\$614

# Water and Energy

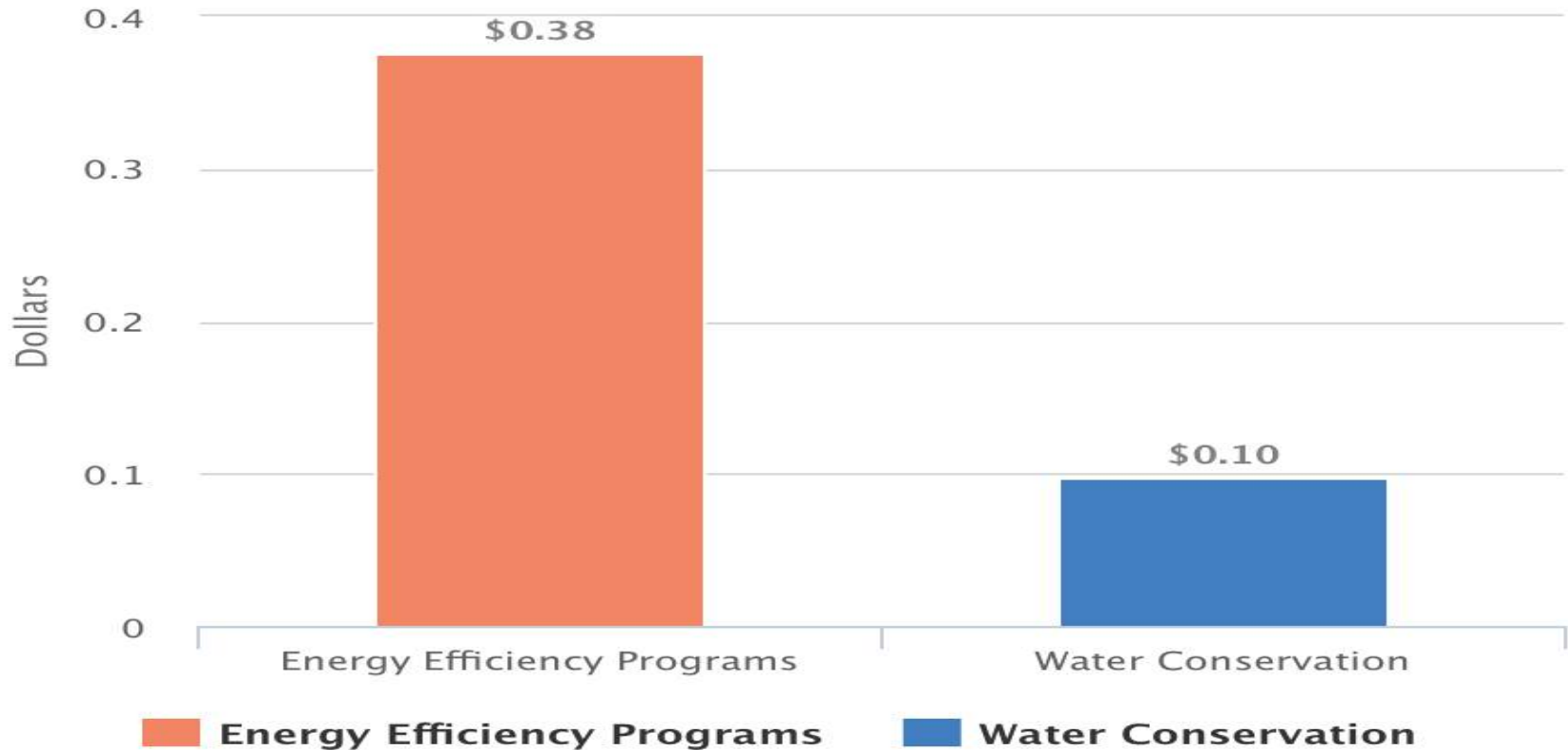
- Blueprint document issued with over 50 recommendations from the stakeholder workshop.
- Research Report and recommendations published by AWE and ACEEE.
- No State has yet acted on any of them, nor has the federal government.
- Reports posted at **[a4we.org](http://a4we.org)**





**Source: UC Davis Center for Water-Energy Efficiency**  
Electricity savings from IOU EE program savings (July 2015 – June 2016 ) by end use vs.  
estimated electricity savings (IOU & total) from statewide water conservation

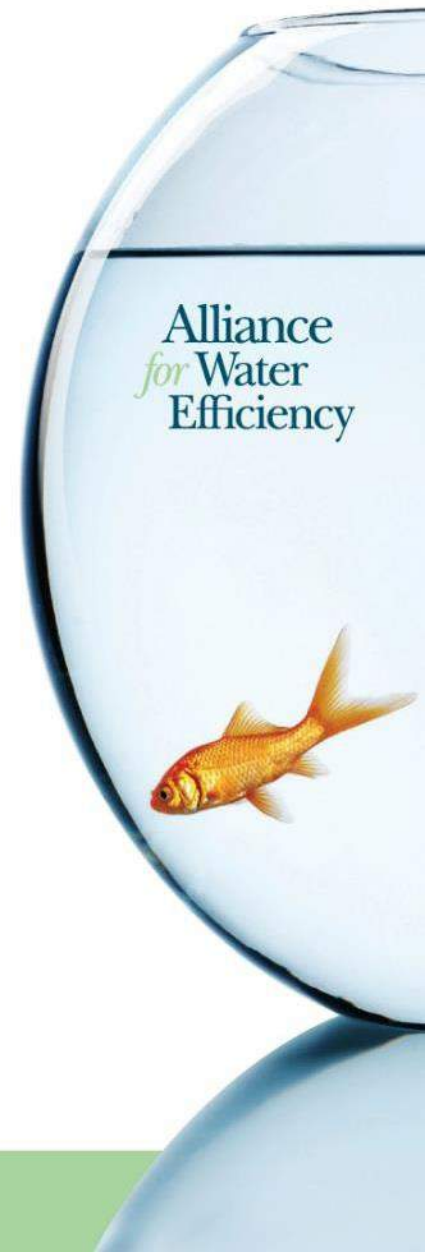
# Cost per kWh of Statewide Water Conservation vs. Energy IOU Efficiency Programs (Jul – Sep 2015)



Center for Water-Energy Efficiency, UC Davis, 2016

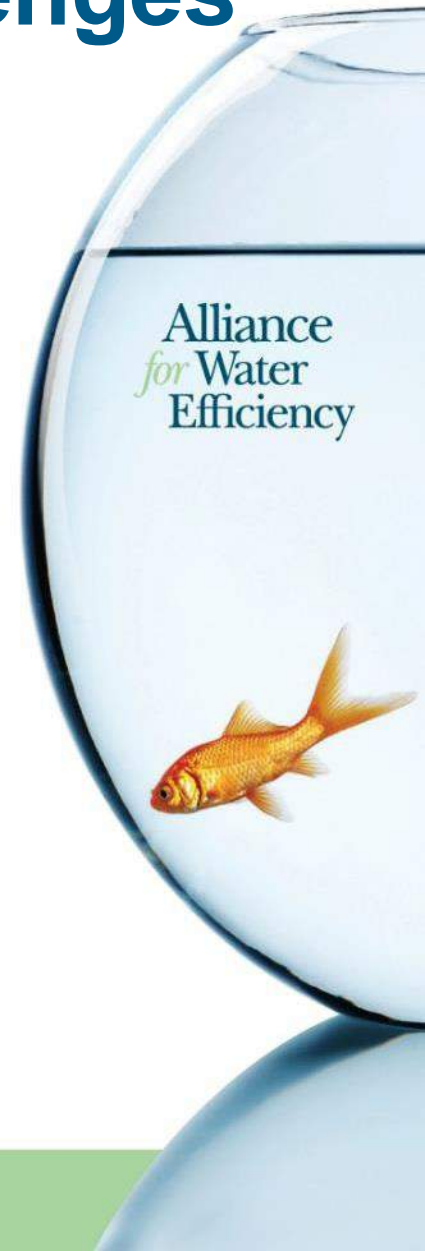
# Policy Messages for all States

- Need to fund cold water conservation, not just hot water conservation.
- Funding for the saved energy should go to water utilities -- not energy utilities -- if they funded it.
- GHG reduction credit for the saved energy should go to water utilities -- not energy utilities -- if they funded it.



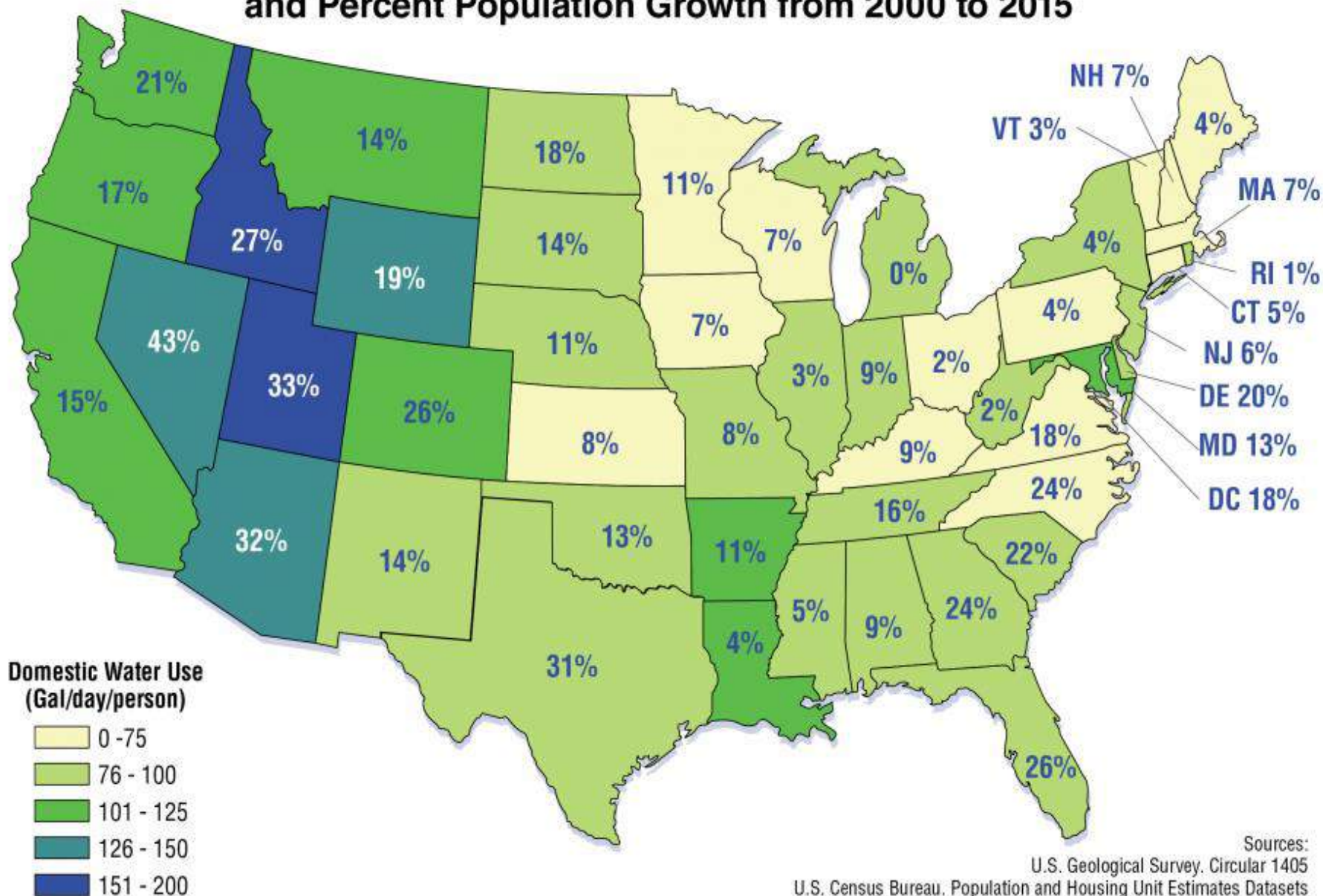
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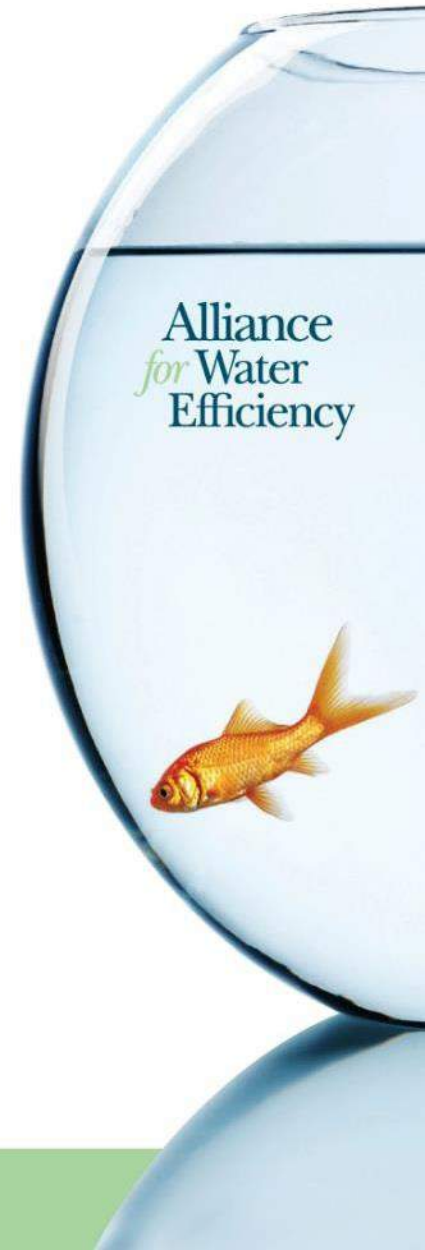


# Domestic Water Use in Gallons per Day per Person and Percent Population Growth from 2000 to 2015



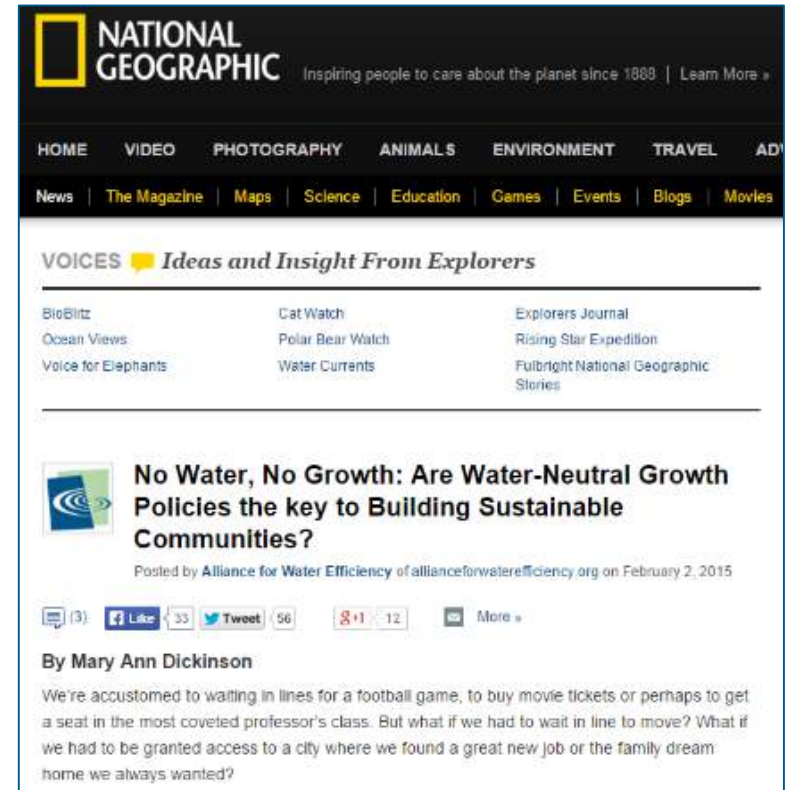
# The Problem

- Many cities already challenged to meet customer demands for water.
- Growing population and certain economic growth will place even more pressure in arid and water-short areas.
- Water suppliers reluctant to be involved in land use planning.
- Customers concerned about new development under restrictions.



# Net Blue: Water-Neutral Growth

- National model template ordinance that can be tailored to create a customized water demand offset approach.
- Worked with 7 partner cities across the country to develop approach.
- Free Net Blue Toolkit.



# Net Blue Toolkit

- Model Ordinance
- Model Ordinance User Guide
- Three Ordinance Examples
- Offset Methodology Workbook
- Offset Methodology User Guide
- Three Offset Examples matching the ordinance examples
- Outreach Materials
- Posted at [www.net-blue.org](http://www.net-blue.org)



## Offset Strategy Worksheet

This worksheet can be used to evaluate and select a suite of measures to offset the demand of new or expanded water use. It contains example offset strategies related to indoor water fixture and appliance replacements and retrofits. Cooling tower retrofits are also included. Additionally, the user can enter custom measures. Example savings estimates are provided for the included offsets, but the user is encouraged to evaluate savings of offset strategies in relation to their service area.

User inputs and selections are required in cells with a white background: **User Input** Green cells do not require any input or selection.

Selecting "Yes" in 'Column J' will include the offset measure in the *Selected Offsets* worksheet as long as 'Column D' is populated with a savings estimate value.



## Step 1: Enter Information about New or Expanded Water Use

Projected Water Demand of New or Expanded Use	450,000.00	Gallons per Year	Select Gallons, Million Gallons, or Acre-Feet per Year
Percent of New or Expanded Use that Must be Offset	200%		
Total Offset Requirement for New or Expanded Water Use	900,000.00	Gallons per Year	

## Step 2: Enter Persons Per Household for the Service Area (used to generate savings for toilet replacements)

Service Area Average Persons Per Household Single-Family	2.5
Service Area Average Persons Per Household Multifamily	2

### Step 3: Define and Select Water Demand Offset Strategies

[illegible]



# Selected Offset Table

## Selected Offsets

This worksheet contains an auto-populating table based on user selections made in the *Offset Strategies* worksheet. The table can be populated using the "Update Selected Offsets Table" button to the right of the Net Blue logo. The user manually enters the implementation value (e.g., number of toilet replacements) in 'Column D.' The 'Percent of Total Offset Requirement' column is automatically calculated after the user specifies implementation. If changes are made in the *Offset Strategies* worksheet, the user must update the selected offsets table using the "Update Selected Offsets Table" button.

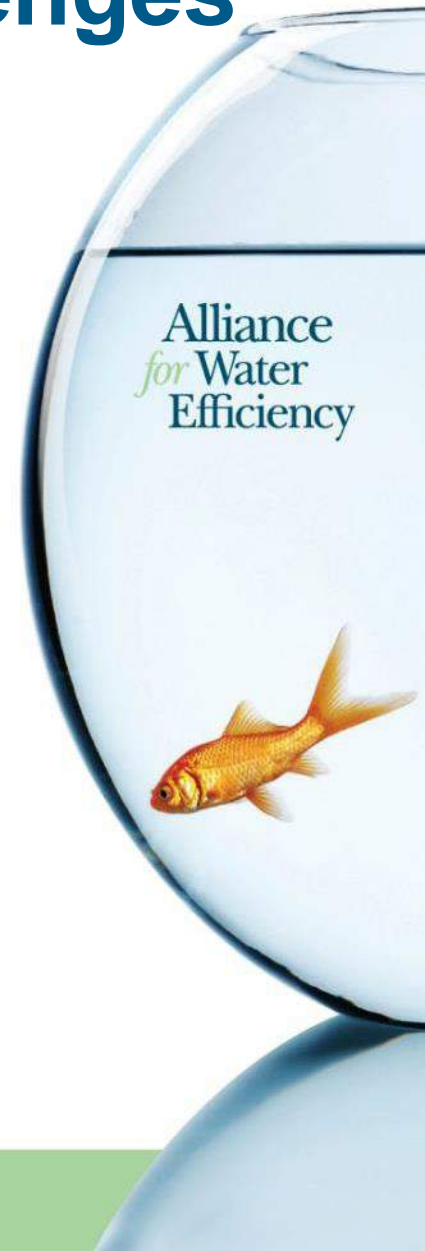
Offset Strategy	Gallons Saved per Unit	Number to be Implemented	Percent of Total Offset Requirement
Single-Family High-Efficiency Toilet Replacements	9,500	5	5%
Multifamily High-Efficiency Toilet Replacements	16,000	5	9%
Single-Family Clothes Washer Replacement	7,043	5	4%
Multifamily Clothes Washer Replacement	25,310	5	14%
CII High-Efficiency Toilet Replacements	13,020	7	10%
Laundromat Clothes Washer Replacements	31,435	5	17%
Pre-Rinse Spray Valve Replacements	28,285	10	31%
Commercial Food Steamer Installation	81,500	1	9%
<b>Total</b>			<b>100%</b>



Update Selected  
Offsets Table

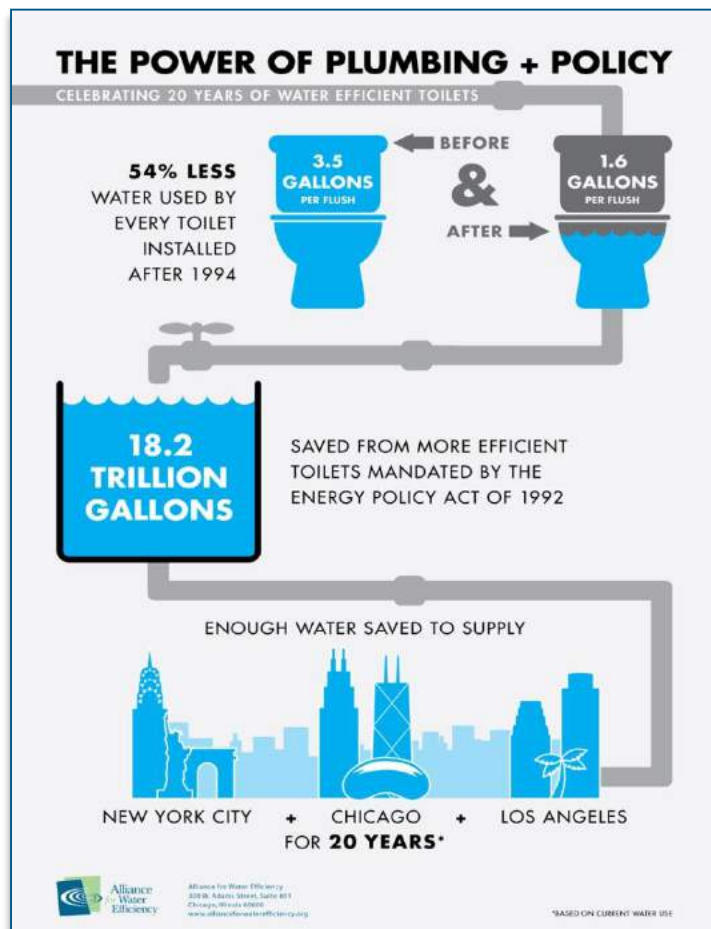
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# Product Standards Get Forgotten



- 1992 Federal Energy Policy Act water efficiency standards.
- Free, permanent savings occur without cost to the water utility.
- AWE analysis for toilets alone, assuming a 4% change-out rate.
- **18.2 trillion gallons saved since 1994.**
- Enough to supply New York City, Chicago, and Los Angeles for 20 years.

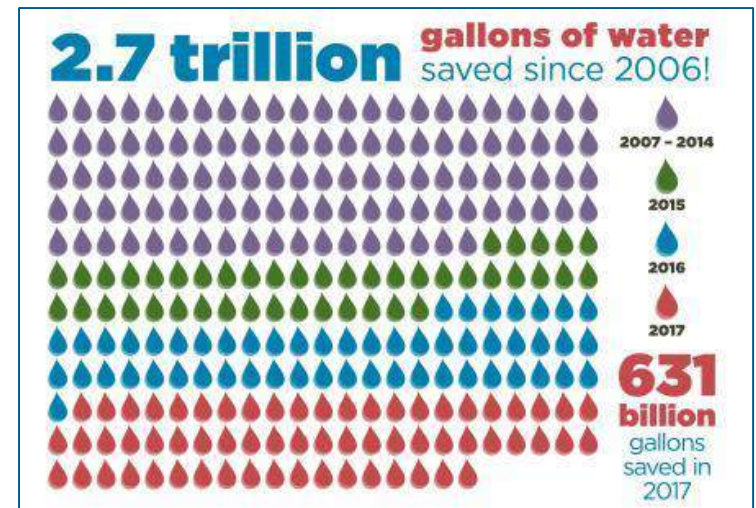
# Launching the WaterSense Program

- We had Energy Star Envy and had to lobby EPA hard for a water labeling program.
- Announced in San Antonio in June 2006.
- Voluntary program, not regulatory.
- Despite minimal funding, it has transformed the market and been remarkably successful.
- How much has it saved?



# WaterSense Benefits

- 1,738 organizational partners
  - Manufacturers, retailers, distributors
  - Local and state governments
  - Utilities and Water districts
  - Trade associations
  - Nonprofits
  - Professional certifying organizations
  - Licensed certification providers
  - Builders
- 2.7 trillion gallons saved through end of 2017.
- \$63.8 billion USD in water & energy bills saved.
- 367 billion kilowatt-hours of electricity saved.



# Saving WaterSense


- Only \$3 million/year in funding.
- Energy Star \$50 million/year.
- Historically funded out of discretionary funding in EPA Administrator's budget.
- President's budget: FY18 zero funding.
- President's budget: FY19 zero funding.
- For past 12 years numerous bill attempts to get Congressional authorization for separate line item funding.



# Coalition!

- AWE and numerous industry partners (PMI, IAPMO, Kohler, IA, AWWA) begin launching advocacy efforts on the Hill.
- AWE created Fact Sheet, Infographic, and social media messages.
- Asked AWE members to help.


## SAVE WATERSENSE!



The Trump Administration wants to eliminate the EPA WaterSense® program, a vital part of our strategy to achieve a sustainable water future! Here are six reasons to save it:

### 1. IT SAVES TAXPAYER MONEY

U.S. households have saved **\$32.6 billion** on utility bills thanks to WaterSense labeled toilets, showerheads, faucets, and irrigation products



### 2. IT SUPPORTS JOBS


More than **2,200 WaterSense-certified irrigation pros** can help design a water-wise landscape

### 3. ITS GOOD FOR BUSINESS

**1700+ partners** rely on WaterSense to help them differentiate their products, innovate through efficiency, and pursue sustainability goals


### 4. IT PROVIDES CHOICES

Consumers can choose from **16,000+ labeled products** to help save up to \$350 per year



### 5. ITS A SMART INVESTMENT

Annual budget of **less than \$2 million** makes it cost-effective




### 6. IT PROTECTS OUR WATER FUTURE

**1.5 trillion gallons saved** for our communities, businesses and the environment!



### What Can YOU Do to Save WaterSense?

1. Share this graphic and spread the word!
2. Join our email list to be a WaterSense Ambassador
3. Tell your members of Congress you support WaterSense
4. Get your organization to sign our letter to Administrator Pruitt
5. Donate to the Alliance for Water Efficiency to support our efforts



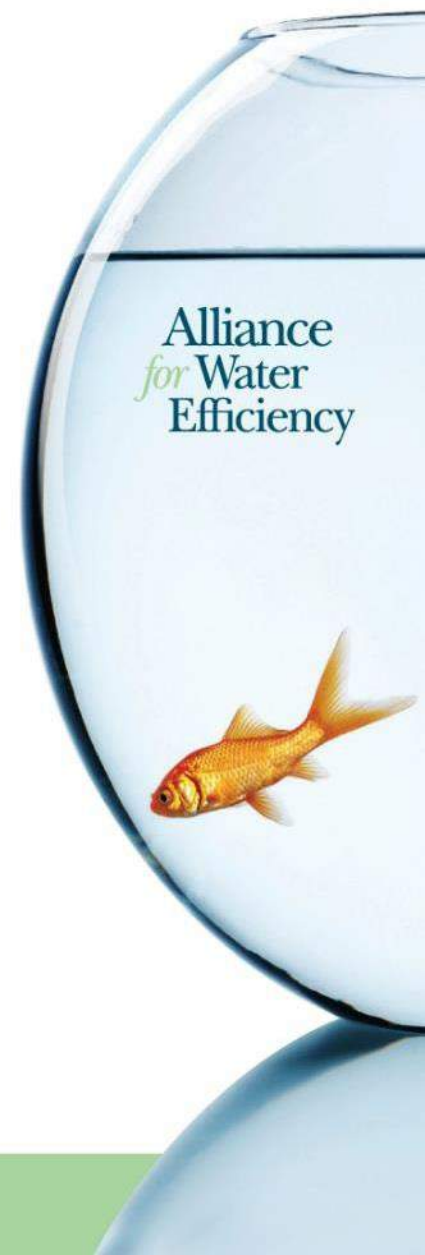
**Start now at [www.a4we.org](http://www.a4we.org)**

Toilet made by Nikita Golubev from [www.flatiron.com](http://www.flatiron.com)  
Faucet made by MadebySilver from [www.flatiron.com](http://www.flatiron.com)  
Showerhead and plant made by Freepik from [www.flatiron.com](http://www.flatiron.com)



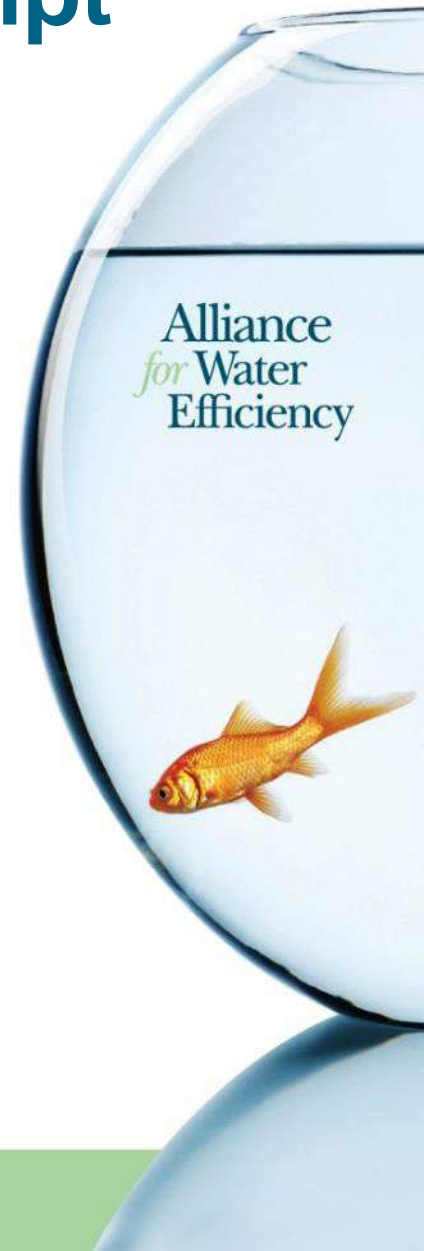
# S 3021 Saves the Day!

- America's Water Infrastructure Act of 2018.
- Amended by Sen. Ben Cardin (D-MD) to authorize the WaterSense program.
- Approved by the Senate Environment and Public Works committee on May 22 and sent to the full Senate.
- Passed Senate and House 10/10/2018.
- Signed by the President 10/22/2018.
- But it is just authorization!
- We still need line item budget funding!
- (Watch for signatory letter from AWE.....)



# Water Efficiency Not Tax-Exempt

- Water efficiency **not** federally tax-exempt.
- Income from water conservation rebates is federally taxable to the consumer, unlike energy efficiency rebates.
- All rebate income totaling \$600 or more in a calendar year must be sent in a 1099 at the end of the tax year.
- Some states made conservation tax-exempt at the state level.
- Utility conservation programs are negatively affected by this.







WHOOPS



SUBMIT A TIP

## Water-Conservation Rebate Recipients Surprised To Learn Rebates Are Taxable

By Laura Northrup [@lnorthrup](#) January 28, 2016



### TRENDING

- › [After Confusion Over EpiPen Profits, Lawmakers Want Proof Of Drug's Actual Costs](#)
- › [7 Things We Learned About The Rapid Expansion Of Meal Kit Service Blue Apron](#)
- › [Amazon Can Charge Any Subscription To Any Card You Have On File If Your Primary Card Expires](#)
- › [Sonic Drive-In Fires Worker Over Receipts With Offensive Language](#)
- › [Sears Holdings CEO Blogs: Kmart Is Doing Just Fine, Thanks](#)

Thanks for participating in our comments beta test. While we review your feedback, you can [stay connected](#) and [share tips](#). Please take this [survey](#) to share what we're doing well, what needs work, and what you'd like to see!



LOCAL / L.A. Now

# Turf rebate recipients will have to decide how to report funds on federal taxes



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**Oakland Raiders v Baltimore Ravens**

BALTIMORE, MD - OCTOBER 2: Joe Flacco #5 of the Baltimore Ravens warms up before the game against the Oakland Raiders at M&T Bank...

**Oakland Raiders v Baltimore Ravens**

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## In Case You Missed It



On debate day, a look back at the most famous moment in a vice





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## U.S. tax policy undercuts CA water conservation push

27 Jan, 2016  
Chris Reed

Print this article  
Font size 16

Even before the current marathon drought, turf replacement subsidies have long been touted by the state government as a powerful way to get California homeowners to stop having water-guzzling lawns. But the federal government sees these subsidies as taxable income. This is from a recent Los Angeles Times [report](#):

*Southern Californians who received cash rebates for replacing their lawns with drought-tolerant landscaping will soon get a federal tax form in the mail reporting the amount, but water officials said Thursday it is still not clear whether the reimbursement will be taxable.*

*Officials from the Metropolitan Water District of Southern California — which funded a \$340 million incentive program — say they are sending 1099 forms to turf rebate recipients of \$600 or more and leaving reporting up to participants and their tax advisers.*

*"We're doing what we believe is our obligation, which is sending the 1099s," said Deven Upadhyay, an MWD manager. Recipients "would have to work with their own tax adviser in terms of the way that they might characterize it in terms of the way they file their own taxes."*



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### Recent News

[Wells Fargo punishment spreads from CA](#)  
October 5, 2016

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[CalWatchdog Morning Read – October 4](#)  
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[Gov. Jerry Brown signs host of significant legislation](#)  
October 4, 2016

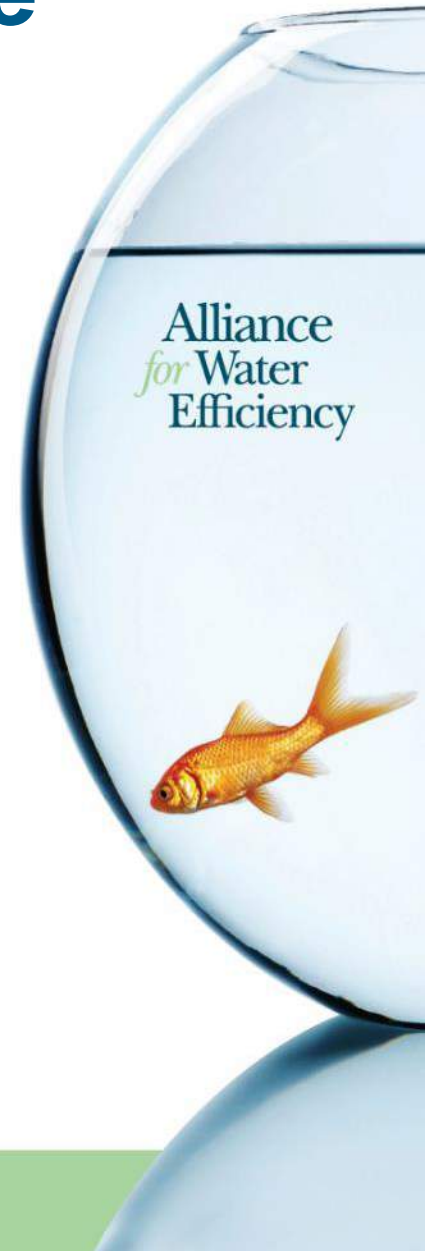
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October 3, 2016

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October 3, 2016

[Old is new as California sees more European immigrants](#)  
October 2, 2016

# Make Rebates Income Tax Free

- Landscape transformation rebates (often known as “cash for grass” rebates) are becoming popular, particularly in the arid West.
- Many individual consumers now receiving much more than \$600 a year.
- Water utilities are now realizing their federal tax obligations to send out 1099s to consumers.
- Consumer reaction has been **very** negative.
- A disincentive to customer participation.



# Join Us!



- Coalition to Promote Water Conservation.
- Formed by Western Urban Water Coalition and AWE.
- Purpose: to address and fix the tax-exemption barrier for water conservation and green infrastructure.
- Stakeholder Resolutions needed for Congress.
- Texas Water Foundation already on board.
- Need more Texas support!
- [www.a4we.org/Legislative-Watch.aspx](http://www.a4we.org/Legislative-Watch.aspx)



**Texas Water Foundation Resolution 012816 - 01**

**A RESOLUTION OF THE BOARD OF DIRECTORS OF THE TEXAS WATER FOUNDATION ON WATER CONSERVATION AND GREEN WATER MANAGEMENT.**

WHEREAS, many Texas water utilities and water agencies offer rebates to individuals who install water conservation and storm water runoff management measures to encourage water conservation and storm water runoff management; and

WHEREAS, these rebates are not specifically excluded from income under the U.S. Internal Revenue Code and therefore are taxable income to the recipient, even while similar rebates for energy conservation are specifically excluded from taxable income; and

WHEREAS, as a result, water utilities must issue notice of miscellaneous income (Form 1099) to their customers who receive rebates in excess of \$600 a year, but any income from rebates is potentially taxable by the IRS; and

WHEREAS, taxing these conservation-based rebates threatens to discourage participation in conservation and storm water management efforts and is unfair to consumers who cooperate in such efforts.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE TEXAS WATER FOUNDATION THAT:

SECTION 1. Request Congress study possible revisions to the Internal Revenue Code to exempt water conservation and storm water management rebates from taxation, the same treatment currently afforded for energy efficiency and conservation measures under the tax code.

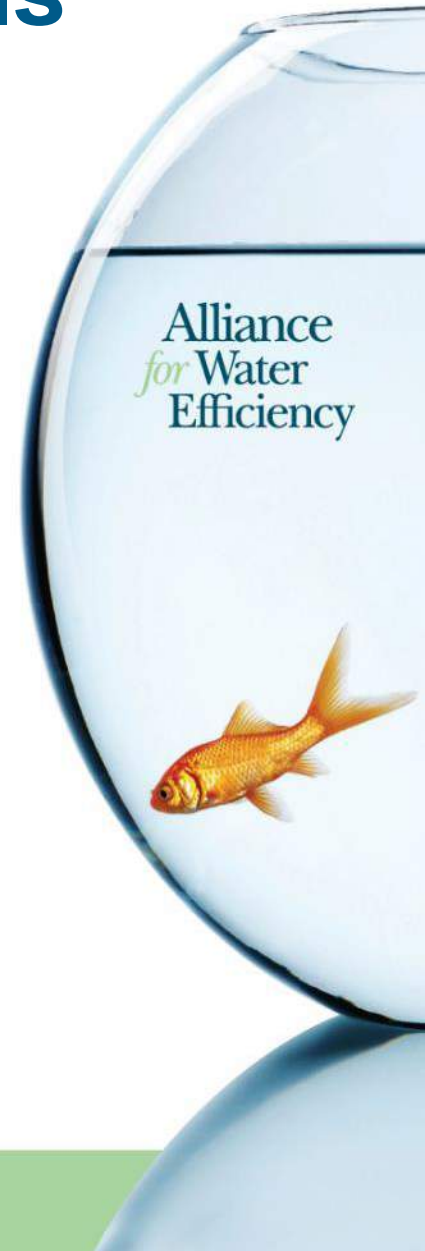
SECTION 2. Request Congress review the U.S. Treasury Department's endorsement of adding exemptions for water conservation and storm water runoff management measures to the tax code outlined in its 2016 recommendations to Congress, and the Congressional Joint Tax Committee's determination that the impact on the federal budget would be "negligible."

SECTION 3. Recommend other water conservation-related organizations consider supporting amendments to the Internal Revenue Code to make consumer rebates for water conservation and storm water management exempt from taxation as income, creating tax parity between the water and energy programs.

SECTION 4. This Resolution shall be in full force and effect from and after its passage and approval.

# Keep Water Working Where It Is

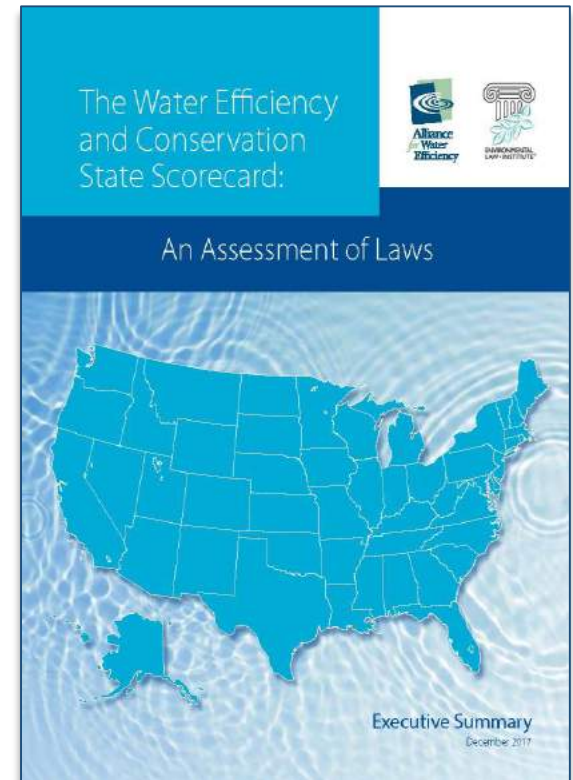
- Need more integrated water management and reuse.
- We use potable water once and discharge it.
- Why not continually reuse the water onsite once it is already there?
- Don't need to treat all water uses to safe drinking water act standards.
- Guidance on treatment – a national panel has designed a water quality framework to allow and promote distributed treatment.
- San Francisco local ordinance.





# 2017 State Scorecard

- Water Efficiency and Conservation Scorecard originally published 2012.
- Funded by the Turner Foundation.
- New analysis issued December 2017.
- Free recorded webinar.
- Texas and California the two top scorers!

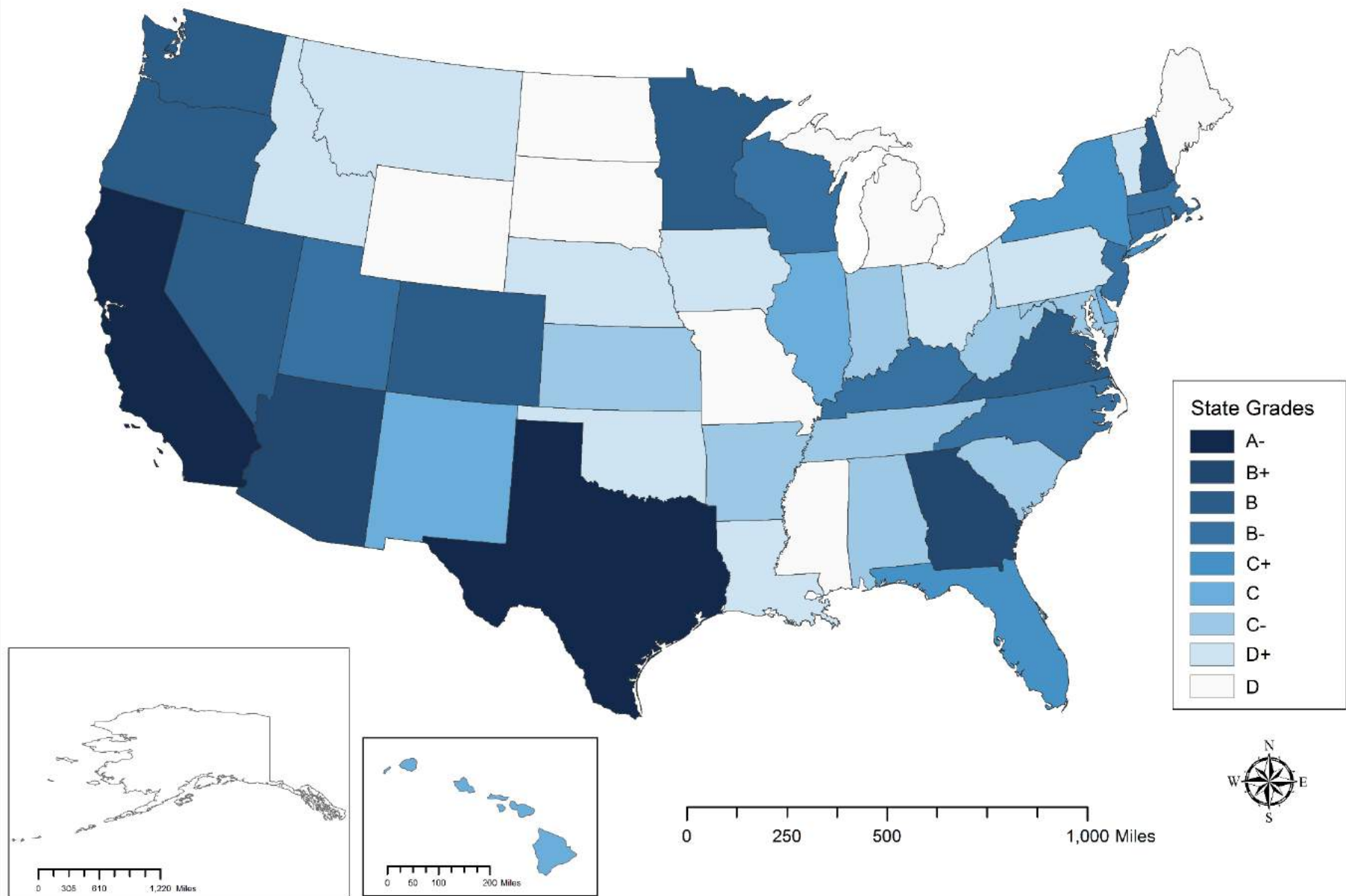


# State Grades

- In the water conservation and efficiency survey, the 50 states earned an average of 19 points (C grade)
  - 2 “A” grades (California and Texas)
  - 17 “B” grades
  - 14 “C” grades
  - 17 “D” grades

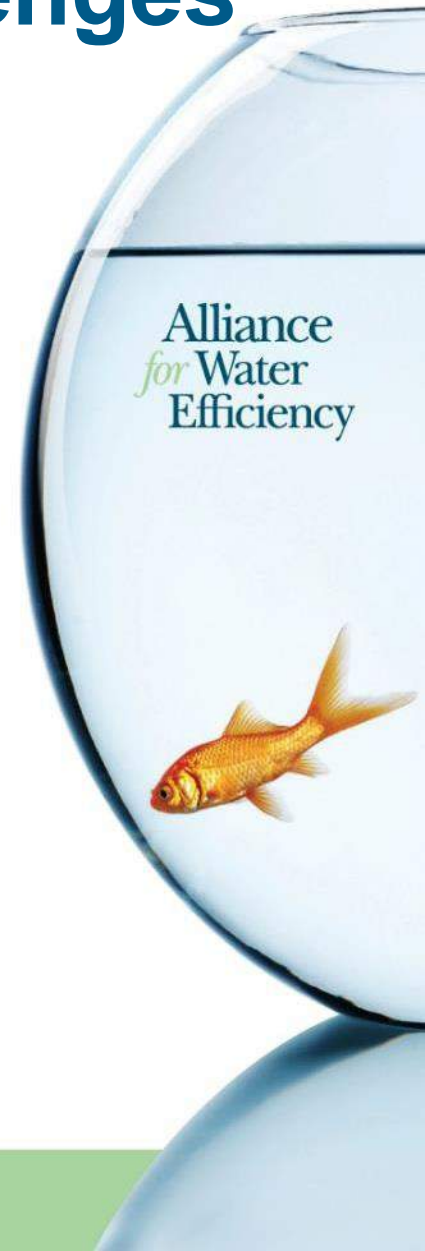
GRADING SCALE	
67 to 75	A+
58 to 66	A
49 to 57	A-
40 to 48	B+
31 to 39	B
26 to 30	B-
21 to 25	C+
16 to 20	C
11 to 15	C-
6 to 10	D+
1 to 5	D

# Water Efficiency and Conservation State Scorecard Grades (2017)



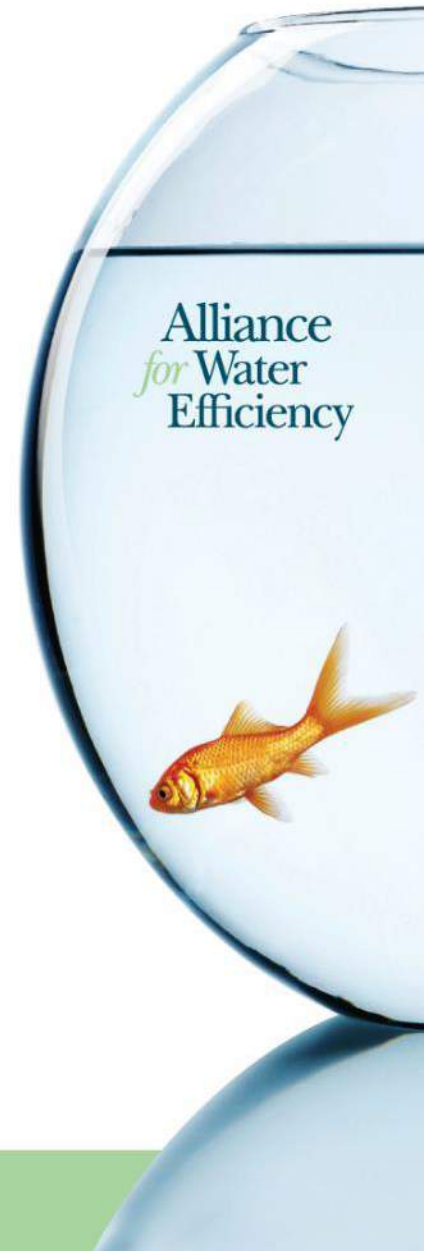
# Issues, Opportunities & Challenges

1. Water efficiency has multiple benefits.
2. Water efficiency is cost effective but reduced water sales are helping rates rise.
3. Water/Energy policy not connected.
4. Water/Land Use not connected.
5. Inconsistent public policy on water efficiency.
6. Customers need better messaging.



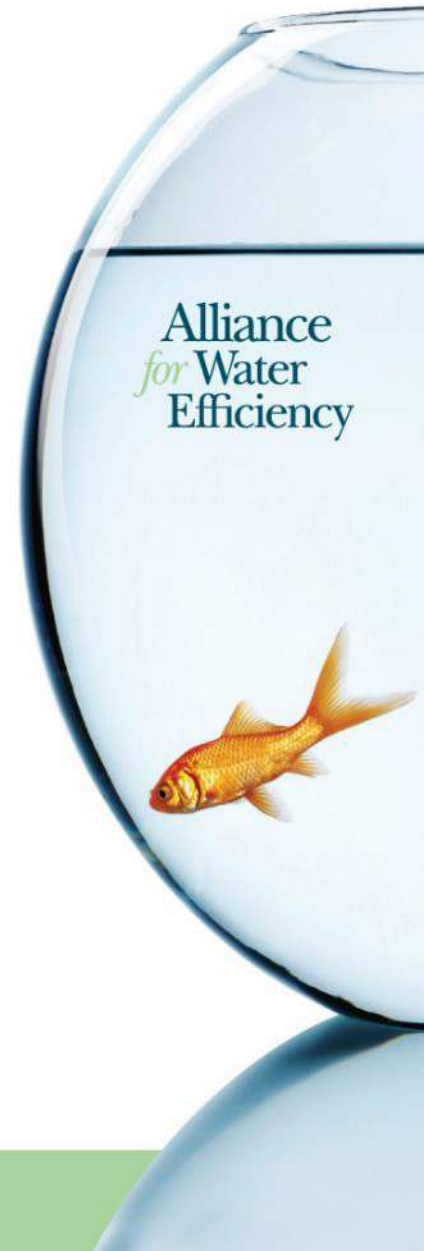
# Fact

- The American household spends, on average, only \$523/year on water and wastewater charges, in contrast to an average of \$707/year on carbonated soft drinks and other non-alcoholic beverages.



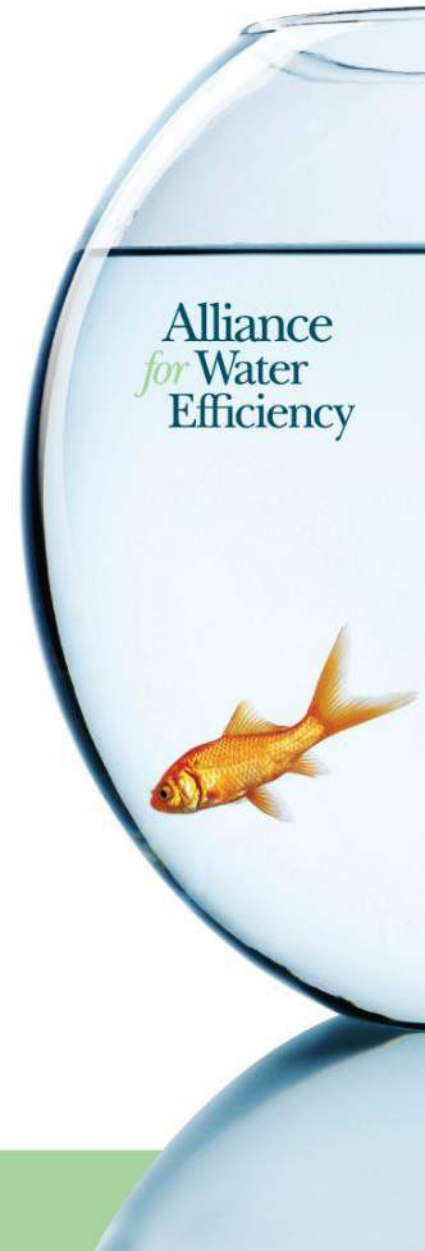
# Fact

- US has the lowest burden for treated water/wastewater bills as a percentage of household income, compared to other developed countries, and the highest water quality.



# Make Our Customers Partners

- Not aware of how much water they actually use (ignorance is worse w/out meters).
- They complain about the rising cost of tap water when they willingly pay a thousand times more for the same equivalent amount in a plastic bottle.
- They have no idea how the utility system is run and the nature of the infrastructure costs.







HOW MUCH WATER DO  
YOU REALLY USE?

FIND MY WATER USAGE ►



## Explore Water Conservation With Our Water Use Calculator

Want to conserve water? Not sure where to start? Our Water Calculator quickly estimates how much water your household uses and compares it to a similar average and a highly efficient home.

The Water Calculator also shows you where to begin your home water conservation efforts. Throughout Home Water Works, you'll find useful tips and resources for saving water and money without sacrificing comfort or convenience.

How much  
**water** do you use?



Get the bottle that will  
**CHANGE THE WAY**  
you think about  
**WATER.**

Join our Never Waste  
Campaign. [Click Here](#) ►

### Does Your Landscape Have a Drinking Problem?

Read about [outdoor water conservation](#) for helpful information on how to keep your landscape looking beautiful while staying water efficient.

### Quick & Easy Tips For Saving Water at Home and Work

Looking for quick and easy ways to save water? Read our [water conservation and saving tips](#) to see how easy it can be to conserve water at home and in the workplace!



# How much water do you use?



## Let's Get Started!

Click an area on the home to input how much water you use, and learn how you can conserve water there. Answer for yourself only, and assume you are in your home for a 24-hour cycle.



### My Daily Usage

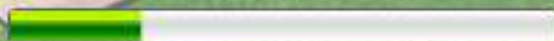
Roll over for results



Carbon Footprint:

(lbs. CO<sub>2</sub> / year)

### Percent Complete



### Areas to Complete

Roll over for number of questions





# How much water do you use?



Using water in the bathroom

Click on one of the question marks to see if this is where your water is going.



BACK

How much water do you use in the bathroom?

The typical person in my household takes \_\_\_\_\_ showers per week at home.

4

Next Question

My Daily Usage

Roll over for results



Carbon Footprint:

(lbs. CO<sub>2</sub> / year)

Percent Complete



Areas to Complete

Roll over for number of questions



# How much water do you use?

Choose another area

Click an area on the home to input how much water you use, and learn how you can conserve water there.

My Results

Where I Use Water

Energy In My Water

How Do I Compare?

My Answers

My Water Efficiency Plan

Category	My House	Average House	Water-Wise House
Toilet use	14590	21170	12210
Clothes washer use	8860	18350	8860
Shower use	8810	14450	8810
Faucet use	10500	12540	10500
Leaks	8240	10300	8240
Other/Miscellaneous use	3490	3490	1000
Bathtub use	5980	1490	5400
Dishwasher use	1330	1250	1330
INDOOR WATER USE	61790	83040	45340
HOT WATER USE	18410	24750	13510



Facebook



Twitter

Learn about how the Water Calculator works [here](#).

Carbon Footprint:

(lbs. CO<sub>2</sub> /year)

Show Results



## Water: What You Pay For



A4WE



Subscribe

284

1,924

+ Add to   Share   ... More

23   0





## Good Question: Why Are My Water Rates Going Up?



A4WE

 **Subscribe**

632

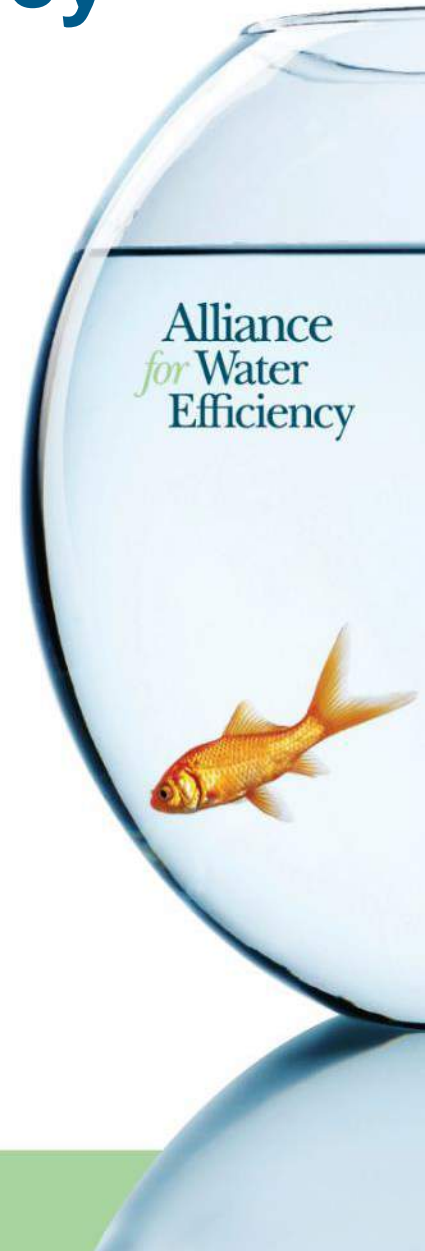
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# AWE: A Voice for Water Efficiency

- The only North American organization dedicated to promoting the **efficient** and **sustainable** use of water
- Unites water suppliers, plumbing, appliance and irrigation manufacturers, advocates, government and academia
- Offers advocacy, education, tools and research
- Stakeholder-created and defined in 2007
- Carole Baker our first Chair
- 2014 US Water Prize Winner



## Sign on to Request Tax Exemption for Water Conservation Rebates

The Alliance for Water Efficiency is seeking supporters of two Congressional Bills that would make water conservation rebates exempt from federal tax. S. 1464 and H.R. 448 are bills that have been introduced that will make water conservation rebates exempt. [Click here](#) for more information, and to sign on to the letters of support.



## Register for AWE Webinar

Register now for AWE's webinar on November 15 on "Death Knell Barriers to Water Conservation." This webinar will cover some unintended consequences to your water conservation programs that can end up being the "death" of your programs if not addressed properly: utility revenue loss from water efficiency and conservation programs; lack of a federal tax exemption for water efficiency and conservation rebates; utility inability to debt finance conservation programs; slowdown in distribution system pipe flows causing the need for greater system flushing; and pathogen growth in efficient premise plumbing systems. [Click here](#) to learn more and to register.

### Webinar

Web-based seminar  
live online educational pro-  
viewers can submit question-  
see slides while the speaker  
interactive elements - the a

## Cooling Tower Research Study

The Alliance for Water Efficiency is excited to announce the launch of its



## Calendar of Events



- |           |   |
|-----------|---|
| 11/6/2017 | CWWA National Water & Wastewater Conference                 |
| 11/6/2017 | IA 2017 Irrigation Show & Education Conference              |
| 11/6/2017 | Modernizing North American Water Systems in the Digital Age |
| 11/7/2017 | Onsite Non-Potable Water Systems Workshop (San Fran, CA)    |
| 11/9/2017 | Onsite Non-Potable Water Systems Workshop (Sacto, CA)       |

## How Much Water Do You Use?



[Click Here to Learn More](#)

## Important Information



Water Efficiency Watch Newsletter  
October 2017



Business Guide



Webinar Archive Page



Jobs, Internships, and RFPs Board



AWE/Dickinson Keynote @ WSI '15

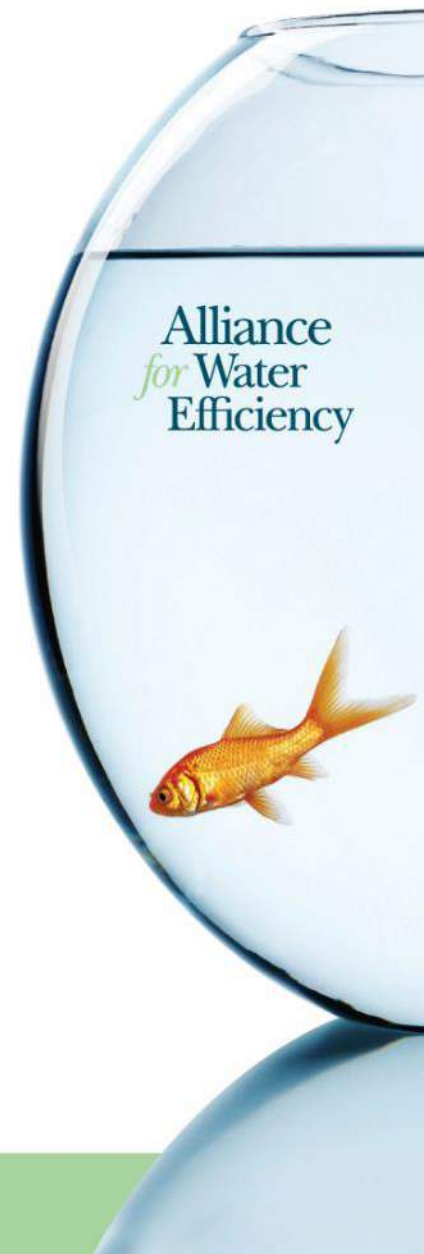


**64 AWE  
Members!**



# AWE's Role in Texas

- Help water conservation programs thrive for our Texas members.
- Build coalitions with our Texas membership.
- Partner with Texas organizations (like the Texas Water Foundation and the Texas Living Waters Project).
- Train our members in implementing the solutions crafted, like the TWDB Municipal Water Conservation Planning Tool.





# Municipal Water Conservation Planning Tool

This tool was developed to assist water utilities with their water conservation planning and reporting. It provides an accounting framework for projecting future conservation program costs and water savings as well as estimating the water savings from previous implementation of conservation measures.

It is recommended that users review the User Guide to familiarize themselves with the tool's functionality. Quick Start Guides also are provided below. Users may add additional worksheets to the workbook, which may be useful for keeping notes or performing additional data calculations.

## Conservation Plan Quick Start

**Step 1.** Go to the **Baseline Demand Projection** worksheet and click the **Find My Utility** button to locate your utility. If your utility is not listed, select UNLISTED and enter your utility's Planning Region and name when prompted. Choose whether you will use the TWDB baseline demand projection for your utility or enter your own baseline projection. If your utility is UNLISTED, you will have to enter your own baseline projection.

**Step 2.** Go to the **Conservation Measures** worksheet and select the conservation measures you want to include in your analysis. There are two types of measures: Pre-Defined Measures and User-Defined Measures. Pre-Defined Measures already are fully specified. You only need to enter the average annual level of activity for these measures by planning decade and indicate whether any of the measures will be debt financed. With User-Defined Measures, you must also specify their cost and water savings parameters. You can also copy any Pre-Defined Measure and paste it into the corresponding User-Defined Measure table so that you can customize it to your utility.

**Step 3.** Once you've selected/defined your conservation measures and entered their activity levels, click the **Manage Scenarios** button on the worksheet to save your selections and measure specifications. You can create as many scenarios as you like.

**Step 4.** Review your Conservation Plan. Your Conservation Plan's annual implementation activity, water savings, and costs are summarized on the

Start

1. Baseline Demand Projection

2. Conservation Measures

3. Conservation Plan

4. Plan Demand Projection

Single-Year Savings Calculator ...



# Baseline Demand Projection

View Settings Help

Find My Utility

Utility

AUSTIN

Planning Region

K

## TWDB Pre-Populated Projection

Tables below will be blank if TWDB does not have data for your utility.

### Projections

Reported	Projected					
2016	2020	2030	2040	2050	2060	2070

### Population

Retail Service Area	930,650	1,039,588	1,238,017	1,438,692	1,584,433	1,707,636	1,870,433
---------------------	---------	-----------	-----------	-----------	-----------	-----------	-----------

### Connections

Single Family	202,813	226,553	269,796	313,528	345,289	372,138	407,138
Multi Family	6,242	6,973	8,304	9,889	11,777	14,025	16,025
ICI	17,441	19,482	23,201	27,629	32,903	39,183	46,183
Total	226,496	253,008	301,301	351,046	389,969	425,346	470,346

ICI = Industrial, Commercial, and Institutional

### Baseline Demand

	(in kGal)						
Single Family	13,833,631	14,909,632	17,060,749	19,694,092	21,606,568	23,223,291	25,359,632
Multi Family	9,354,071	10,081,645	11,536,194	13,316,817	14,610,002	15,703,203	17,147,604
ICI	13,934,111	15,209,405	17,582,861	20,125,211	21,996,381	23,616,503	25,818,604
Sales Subtotal	37,121,813	40,200,682	46,179,804	53,136,120	58,212,950	62,542,997	68,325,342
Other Uses	238,267	266,157	316,959	368,336	405,649	437,192	478,868
Water Loss	5,979,916	6,477,189	7,442,349	8,564,012	9,382,590	10,080,713	11,012,916
Production Total	43,339,995	46,944,028	53,939,112	62,068,468	68,001,190	73,060,902	79,817,125

### Baseline GPCD

Total	128	124	119	118	118	117	117	-0.1%
Residential	68	66	63	63	63	62	62	-0.1%
Water Loss	18	17	16	16	16	16	16	-0.1%

GPCD = gallons per capita-day

Find Utility

Use TWDB Projection

Enter Search String to Filter Utility List

Au

Select your utility from the list. If your utility is not listed, choose UNLISTED.

AUSTIN  
BEAUMONT  
BENBROOK WATER AUTHORITY  
CLEAR LAKE CITY WATER AUTHORITY  
LAKE CITIES MUNICIPAL UTILITY AUTHORITY  
MEMORIAL VILLAGES WATER AUTHORITY  
NASSAU BAY  
NEW BRAUNFELS  
NORTH AUSTIN MUD 1  
NORTH KAUFMAN WSC  
SAN AUGUSTINE  
WATAUGA

OK

Baseline Demand Projection, enter values for the yellow-shaded cells in specified.

Projected					
2030	2040	2050	2060	2070	

--	--	--	--	--	--

--	--	--	--	--	--

--	--	--	--	--	--

--	--	--	--	--	--

0	0	0	0	0	0
---	---	---	---	---	---

--	--	--	--	--	--

0	0	0	0	0	0
---	---	---	---	---	---

0	0	0	0	0	0
---	---	---	---	---	---

Start

1. Baseline Demand Projection

2. Conservation Measures

3. Conservation Plan

4. Plan Demand Projection

Single-Year Savings Calculator ...



## Conservation Plan

[View Settings Help](#) [Manage Scenarios](#)

Your Conservation Plan is summarized on this worksheet. It shows the expected unit cost, annual implementation level, annual water savings, and annual O&M, capital, and debt service costs for each measure in the Plan. These quantities are subtotaled for each measure category and the Plan's Grand Totals are displayed at the bottom of the tables. Use the Manage Scenarios button to load and view different Conservation Plan scenarios.

Utility: **AUSTIN**  
Scenario: **Empty**

Savings  
Unit Cost  
\$/AF

### Annual Measure Implementation

### Active Water Savings by Planning

ID Name

2020

2024

2029

2030

2040

2050

2060

2070

2020

2024

### Single-Family Measures

PRE-SF-01 HE Toilet Rebate

\$ 363

100

100

100

100

100

100

25

0

736

3,398

PRE-SF-03 Showerhead and Aerator Kit

\$ 274

50

50

50

50

25

0

0

0

59

257

PRE-SF-04 Clothes Washer Rebate

\$ 1,374

50

50

50

50

50

0

0

0

189

822

PRE-SF-05 Home Water Reports

\$ 516

8,000

8,000

8,000

8,000

11,000

13,000

14,000

15,500

35,332

35,332

PRE-SF-06 Irrigation Audits - High Users

\$ 924

15

15

15

15

20

25

25

30

181

542

PRE-SF-07 High-Efficiency Sprinkler Nozzle Rebate

\$ 917

200

200

200

200

200

200

200

200

908

4,541

PRE-SF-08 Smart Irrigation Controller Rebate

\$ 694

50

50

50

50

50

50

50

50

573

2,865

Subtotal

\$ 571

37,978

47,756

### Multi-Family Measures

PRE-MF-01 HE Toilet Rebate

\$ 263

1,000

1,000

1,000

1,000

1,000

1,000

1,000

1,000

10,138

46,795

PRE-MF-05 Irrigation Audits - High Users

\$ 533

20

20

20

20

20

20

20

20

898

2,694

PRE-MF-06 High-Efficiency Sprinkler Nozzle Rebate

\$ 854

200

200

200

200

200

200

200

200

3,633

18,166

PRE-MF-07 Smart Irrigation Controller Rebate

\$ 449

50

50

50

50

50

50

50

50

2,148

10,742

PRE-MF-09 Rainwater Harvesting Rebate

\$ 471

5

5

5

5

5

5

5

5

844

4,221

Subtotal

\$ 396

17,662

82,617

### Industrial, Commercial, Institutional Measures

PRE-IC-05 Kitchen Dry Dish Soap Dispenser Installation

\$ 333

100

100

100

100

100

100

100

100

3,811

11,500

Start

1. Baseline Demand Projection

2. Conservation Measures

3. Conservation Plan

4. Plan Demand Projection

Single-Year Savings Calculator

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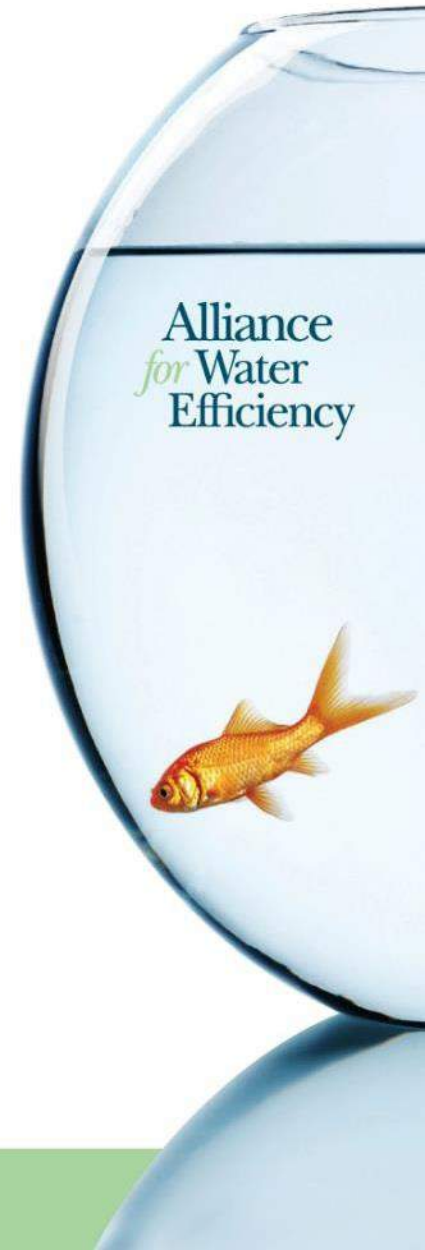
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←

# Save the Date: December 14

- Training workshop in Austin on the Municipal Water Conservation Planning Tool.
- Will be recorded as a webinar for long term viewing.
- AWE will be available to assist its members in using the tool.
- Stay tuned!







# Alliance *for* Water Efficiency



A VOICE AND  
A PLATFORM  
PROMOTING THE  
EFFICIENT AND  
SUSTAINABLE  
USE OF WATER

**[www.a4we.org](http://www.a4we.org)**

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**CHICAGO**

