

A blue-tinted photograph of industrial machinery, possibly a water treatment plant, featuring large pipes and valves.

# Meeting Other Objectives

Glenn Barnes

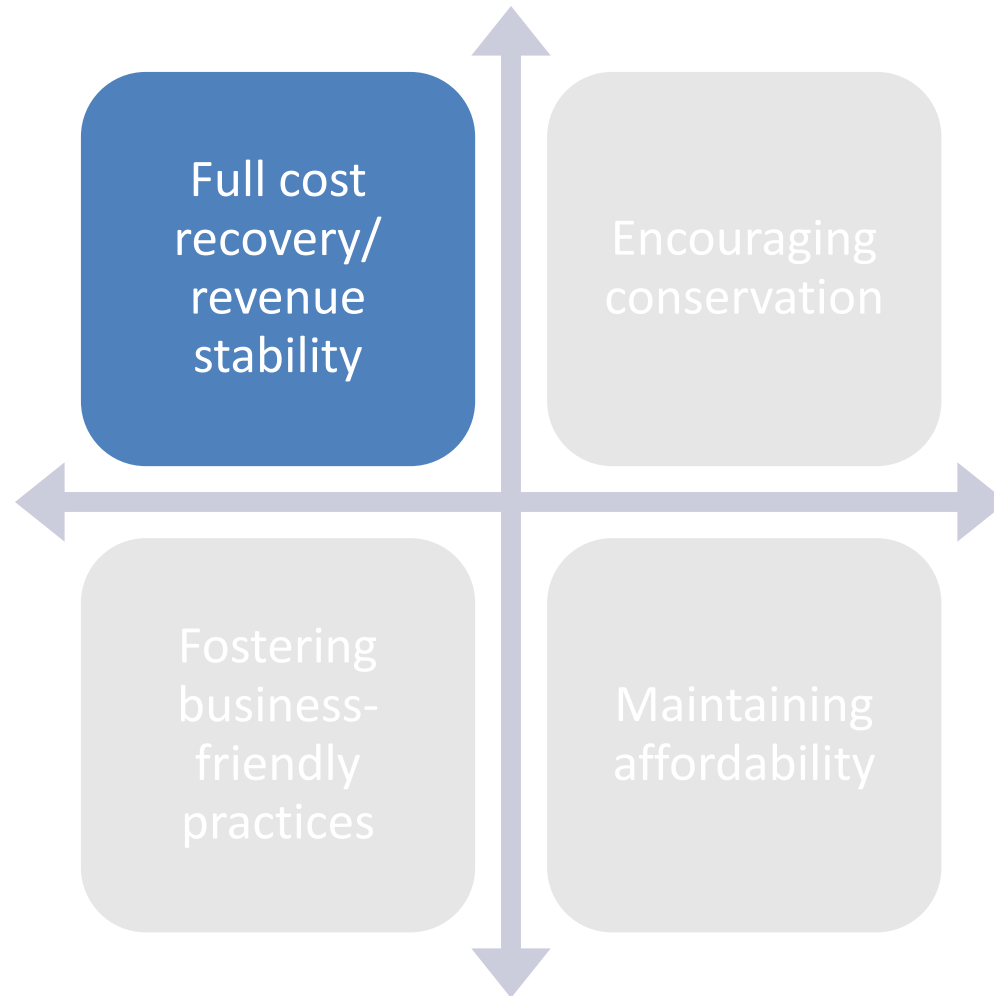
Environmental Finance Center

The University of North Carolina at Chapel Hill

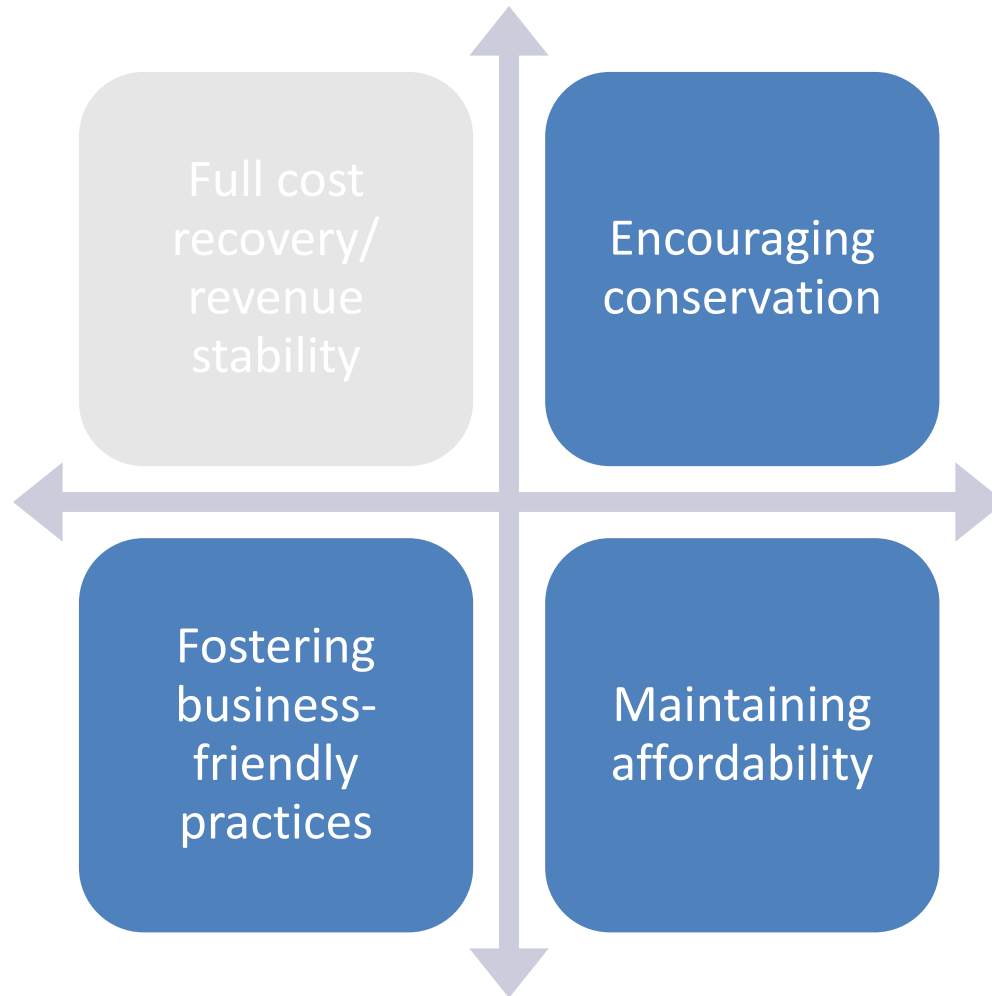
919-962-2789

[glennbarnes@sog.unc.edu](mailto:glennbarnes@sog.unc.edu)

# So Far Today...



# Rate Setting Objectives

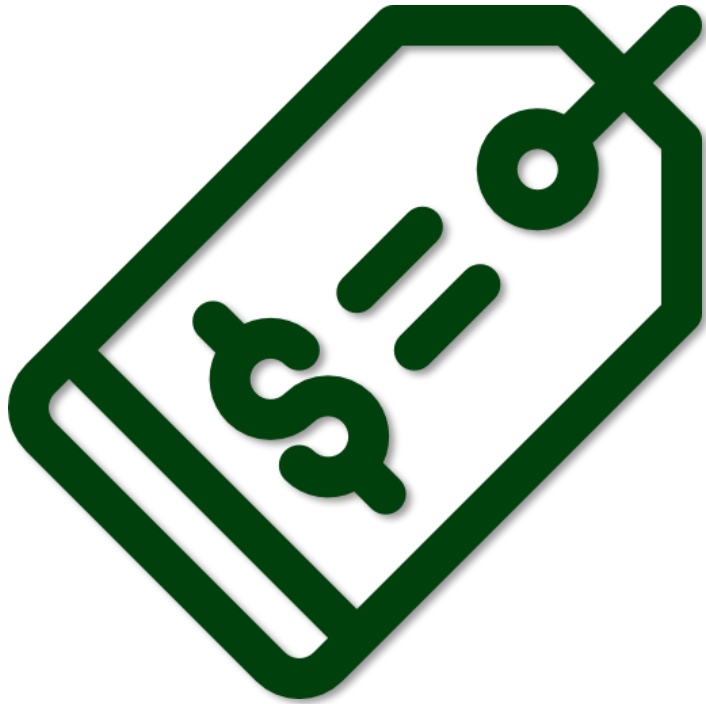




# Session Objectives

- Understand why water systems would be interested in these other objectives
- Learn about strategies to meet those objectives

# Two Approaches

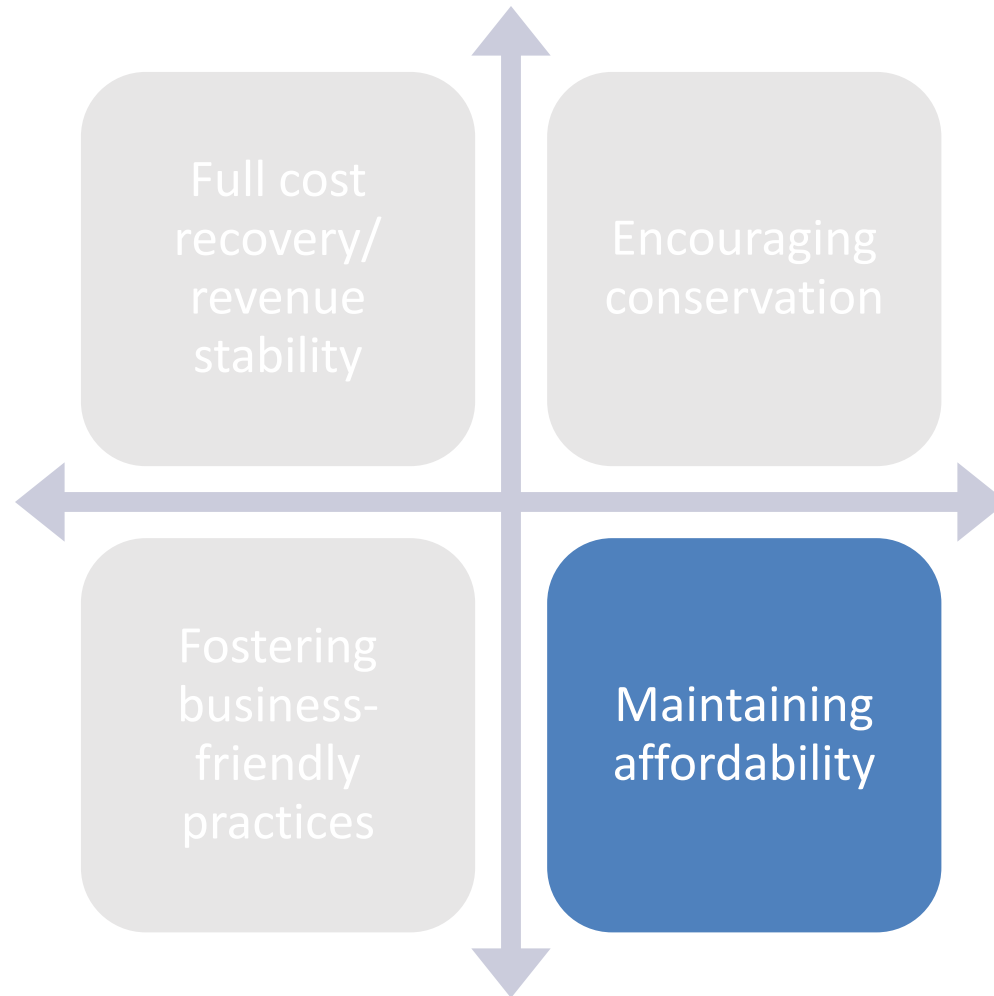


Pricing signals  
through your rates



Non-price strategies

# Maintaining Affordability





UNC  
ENVIRONMENTAL  
FINANCE CENTER

## NC Water and Wastewater Rates Dashboard

Rates as of January 1, 2017

Last updated: October 4, 2017



Graham

Rates Comparison

Financial Benchmarks

Characteristics

Links

Edit Data or Add Utility

Select residential bill and monthly consumption amount

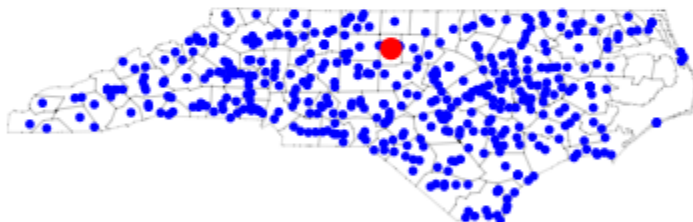
☒ Water Bill ☐ Sewer Bill ☐ Water + Sewer Bill

5,000 gallons  
668 cubic feet

Monthly Water Bill: \$24.05

Select comparison group: All Utilities

Comparing to all utilities in survey

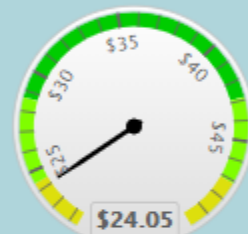


448 rate structures compared

Effects of raising rates by: 0%

### Bill Comparison

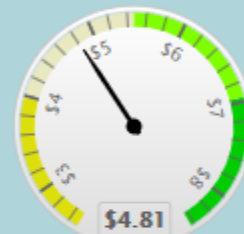
Water Bill at  
5,000 gallons  
Median: \$32.50



Min \$10.69 Max \$101.64

### Conservation Signal

Water Price/1,000 gallons, after  
10,000 gallons  
Median: \$4.83



Min \$0.50 Max \$20.00

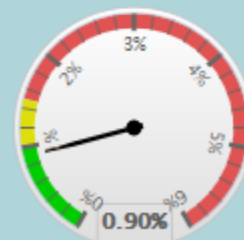
### Cost Recovery

Operating  
Ratio Incl. Deprec. 2016



### Affordability

Water Bills as % MHI





# First Things First

- There is no nationally accepted standard for affordability of water and wastewater service
- You know your own community the best. You should set the threshold for affordability



A blue-tinted photograph of industrial machinery, possibly a large pipe or valve, serves as the background for the top portion of the slide.

# Also...

- There is a difference between someone who has a legitimate financial issue and someone who doesn't have the best priorities in life
- In other words, some people have an ability to pay problem. Others simply have a *willingness* to pay problem



## Also...

- Percent MHI is a limited tool since it only shows you the middle customer in your community
- The American Community Survey has better data broken out by different income buckets

# Water and Wastewater Residential Rates Affordability Assessment Tool

Go to

<http://efc.sog.unc.edu>

and search for

“Affordability  
Assessment Tool”





# Why Do This?

- Altruistic reasons
- Business reasons
- External pressure



What does your system do to maintain affordability?

# Non-Price Strategies





# Help Specific Customers Save Money



# Help Customers Cut Water Use

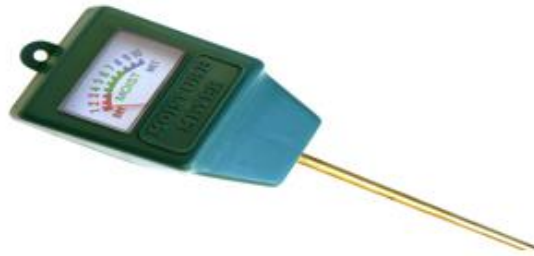
## CITY OF ASHLAND Giveaways

The Water Conservation Department is offering **FREE** showerheads, bathroom aerators, kitchen aerators, and moisture meters. Ask at the front counter for more information!

Showerhead



Moisture Meter



51 Winburn Way

Kitchen aerator



Bathroom aerator





# Levelized Billing

[Outages](#)  
[Rate Map](#)

The logo for the Eastern Municipal Water District (EMWD) features a stylized green and blue wave above the lowercase text "emwd". To the right of "emwd" is the text "EASTERN MUNICIPAL WATER DISTRICT" in a smaller, blue, sans-serif font.

emwd  
EASTERN  
MUNICIPAL  
WATER  
DISTRICT

Quick Links ▾

Search... 

[Information](#) [Use Water Wisely](#) [Customers](#) [Development](#) [Construction](#) [Vendors](#) [How Do I...](#)

[Services](#) » [Billing / Customer Service](#) » [View Bill/Payment Options](#)

## LEVEL PAYMENT PLAN

Font Size:    Share & Bookmark [Feedback](#)  Print

The Level Payment Program (LPP) enables customers to pay their Eastern Municipal Water District bills in equal monthly payments. The customer's anticipated bills for the next year are apportioned equally over eleven (11) monthly payments, providing one set amount to be paid each month regardless of the actual charges incurred during that month.

The twelfth month of the LPP cycle is a settlement month. No normal Level Payment is due during that month. At that time, the difference between the LPP amounts paid and the actual bill amounts is resolved by applying a credit to the customer's account or billing the customer the amount of the difference for the year. The LPP cycle then starts again in the following month.

The Level Payment Program is available to any customer who:

- is billed for water and /or sewer directly by EMWD
- has no outstanding arrears due on his/her account when the first bill is issued
- has a record of at least six (6) months water usage within the past year.



# Extensions

## Payment Extension Policy

Customers who are unable to pay their bill on time may request an extension. A Payment Extension is provided to temporarily extend the due date of the bill for those situations when a qualifying customer is in need. Only the account holder may request this service, and it must be requested prior to the scheduled cut-off day. Payment extensions can only be made on active accounts.

Customers will be allowed two extensions of five days each per 12 month period. Extensions will not be allowed on an account that has less than three billing cycles, if a final read is scheduled, or if the Town is aware the customer is moving. Customers must provide a reasonable cause or undue hardship requiring the extension. Based on the customer's payment history and the amount due, the Town may not be able to grant an extension in all situations.

This extension does not prevent the payment from being considered late, which will lead to additional charges on the account. Even if a payment extension has been granted, a second notice will be mailed. If payment is not received by the extension date, the payment extension will default and the account will be disconnected.

In addition, all accounts terminated for non-payment twice within six months may be reviewed to ensure the deposit on hand is sufficient. If there is a gap between the deposit on hand and three months' average billing for that account, the deposit may be increased to the required level.

# Payment Plans

[Water Quality](#)[Water Information](#)[About Us](#)[News & Community](#)

## CUSTOMER ASSISTANCE PROGRAM

Sometimes customers face circumstances that stretch their financial resources. Illinois American Water is here to assist. Our customer service representatives will work with you on a plan to pay the balance of your bill over time. You may also be qualified to receive assistance through our H2O Help to Others Program™.

### Payment Arrangements

If you cannot pay your bill by the due date, please contact our customer service center immediately, before the due date. Our customer service representatives are available seven days a week at 800-422-2782. They will work with you on a plan to pay the balance of your bill over time.



# Bill Discounts

City of *Moberly!*  
Application

## Water/Sewer Discount

EFFECTIVE DATE: \_\_\_\_\_

RENEW BY: \_\_\_\_\_

Thank you for applying to the City of Moberly Water/Sewer Discount program. The eligibility requirements for this program are:

- Water/Sewer utilities must be in your name or spouse's name
- Minimum 65 years of age **OR** permanently and totally disabled
- Provide documentation of age (drivers license or other government issued ID)
- Provide documentation of disability, if applicable (Social Security Administration certification)
- Provide documentation of income (Federal form 1040, 1040A, 1040EZ, Social Security Earning Statement, bank statements)
- Meet current income guidelines adopted by the City of Moberly

**YOU MUST REAPPLY EACH YEAR TO CONTINUE RECEIVING THE DISCOUNT. IF APPROVED, THE CITY OF MOBERLY WILL DISCOUNT 25% (MAXIMUM \$10.00) FROM YOUR MONTHLY WATER/SEWER BILL FOR ONE YEAR.**

### CUSTOMER INFORMATION

Account #: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Daytime Phone #: \_\_\_\_\_

Address: \_\_\_\_\_



# Bill Discounts

If approved, eligible residents will:

- Have late fees and door hanger fees waived (as applicable);
- Receive a credit applied to their utility bill based on the table below;
- Be provided with water conservation educational materials.

UAP Credit Guideline Table		
Family Size	Monthly Income	Potential Credit
1	\$1,792	\$25
2	\$2,344	\$50
3	\$2,895	\$75
4	\$3,446	\$90
5	\$3,998	\$100
6 or more	\$4,549	\$125

Astoria, OR





# Arrearage Forgiveness

## **HOW OFTEN WILL AN EXEMPTION BE GRANTED?**

Residential owner can qualify for a “*once in a lifetime*” exemption. The exemption applies to the individual owner and not the property address or billing number. For example, if an individual owns multiple rental properties, that owner must choose against which property, including his own home, the exemption will apply. Single family homeowners, without rental properties, using Borough Authority water could only apply the exemption against their domicile.

## **HOW MUCH OF MY BILL WILL BE FORGIVEN?**

The program provides **ONLY LIMITED FORGIVENESS** of one’s Water bill. Pursuant to the guidelines established by the Authority, **ONLY THAT PORTION** of the bill which is **THREE (3) OVER THE AVERAGE CONSUMPTION WILL BE CONSIDERED FOR EXEMPTION**. Average consumption is derived from an owner’s last four (4) quarters of actual consumption.

Shippensburg, PA

# Temporary Assistance



## Applying for and Receiving Assistance from TAP

Service Authority customers seeking assistance from ACTS and SERVE in order to pay their water and sewer bills must meet the following minimum criteria:

- The applicant must be a residential customer with a documented impending disconnection of service.
- The applicant must be the Service Authority account holder.
- The applicant must meet any additional criteria required by ACTS or SERVE policies.

TAP has the following payment restrictions:

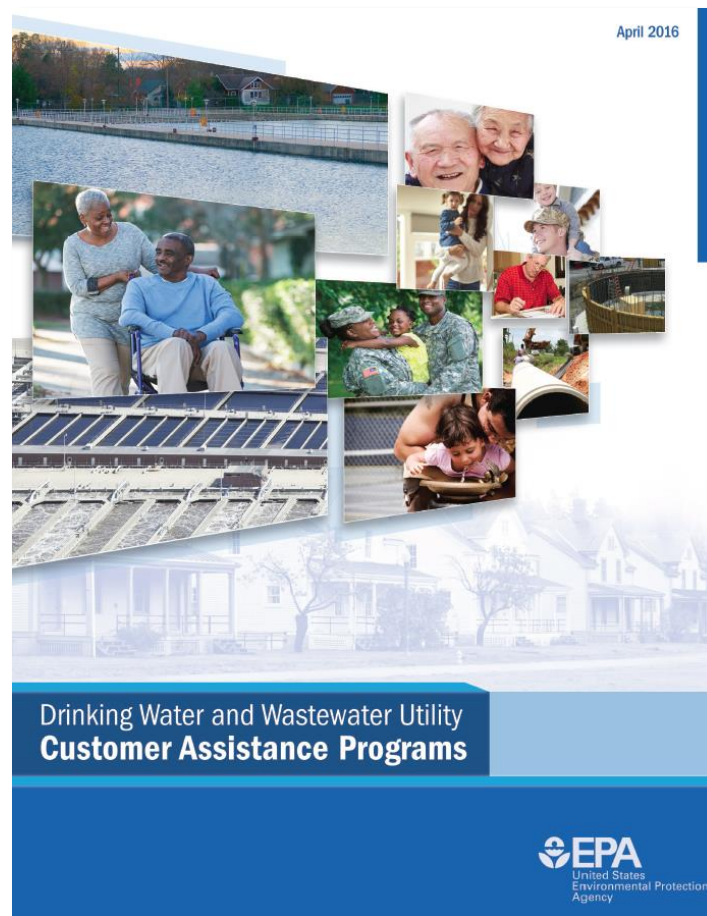
- The maximum assistance that can be provided for any one account at any given time is \$150.
- TAP funds may not be used towards peak charges, penalties, late fees, or other charges.
- TAP funds may only be used to pay towards a specific Service Authority account not more than two

# Prince William County, VA

# Compendium: Customer Assistance Programs (CAPs)

EPA developed compendium with examples of different types of water and wastewater CAPs across the U.S.

<https://www.epa.gov/waterfinancecenter/compendium-drinking-water-and-wastewater-customer-assistance-programs>





# Navigating Legal Pathways to Rate-Funded Customer Assistance Programs

## Navigating Legal Pathways to Rate-Funded Customer Assistance Programs:

A guide for Water and Wastewater Utilities

2017

## Alabama

Commission-regulated utilities  
Noncommission-regulated utilities

Water and wastewater utilities in Alabama fall under several rate setting regulatory systems.

### Commission-Regulated Utilities


The Alabama Public Service Commission (APSC) regulates private water and wastewater companies in Alabama.<sup>21</sup> Under *Ala. Code* § 37-1-34, the APSC does not have the authority to regulate government-owned utilities. Furthermore, per *Ala. Code* § 37-4-2.1, utilities serving less than 1,000 customers and purchasing water from a noncommission-regulated utility<sup>22</sup> can choose to be exempt from APSC regulation and instead fall under that utility's municipal authority.

*Ala. Code* § 37-1-81 states that commission-regulated utilities need to file rate schedules with the APSC before changing rates. In addition, *Ala. Code* § 37-1-80 states that commission-regulated utilities must charge "reasonable and just" rates. Alabama follows the "rate base theory" when determining what is just and reasonable, with the rate base (to determine the fair rate of return) being "the valuation placed on the utility property."<sup>23</sup> *Ala. Code* § 37-1-124 considers rates set by the APSC to be *prima facie* just and reasonable.<sup>24</sup> Furthermore, when the APSC finds rates to be unjust and unreasonable, *Ala. Code* § 37-1-97 gives it the power to adjust them to be just and reasonable.

Thus, commission-regulated utilities would likely need specific approval, in the form of an APSC order, to charge rates to be used to fund a low-income customer assistance program (CAP).

### Noncommission-Regulated Utilities

Municipalities, including cities and towns, have the right to operate and maintain rates for water utilities.<sup>25</sup> They are not subject to APSC regulation and thus can set their own water and wastewater rates.<sup>26</sup> For wastewater rates, under *Ala. Code* § 11-50-121, "all such charges shall be uniform for the same type, class, and amount of use or service by or from the sewer system." This code also lists factors that can be used to set rates, but does not mention socio-economic factors.<sup>27</sup>



State Population (2016):	4,863,300
Median Annual Household Income (2015):	\$43,623
Poverty Rate (2015):	18.8%
Typical Annual Household Water and Wastewater Expenditures (2016):	\$775
Estimated Long-Term Water and Wastewater Infrastructure Needs:	\$11.0 billion

Sources: U.S. Census Bureau 2016 Population Estimate & 2011-2015 American Community Survey 5-Year Estimates, 2016 EPC Rates Survey, U.S. Environmental Protection Agency's 2016 Safe Drinking Water Information System, 2011 Drinking Water Infrastructure Needs Survey & 2012 Clean Waterheds Needs Survey. See Appendix 1 for more details.

Based on the limits laid out above, noncommission-regulated water utilities appear to have very broad rate-setting authority that could be used to implement low-income CAPs funded by rate revenues. On the other hand, because of the aforementioned specific statutory limitation, wastewater utilities might face legal challenges if using rate revenues to fund low-income CAPs, but such programs would face fewer obstacles than programs using income-indexed rates or discounts.



# Lower the Cost of Providing Water Service



# Non Revenue Water



How can we limit the amount of water that leaks out of pipes and the amount for which we don't charge?



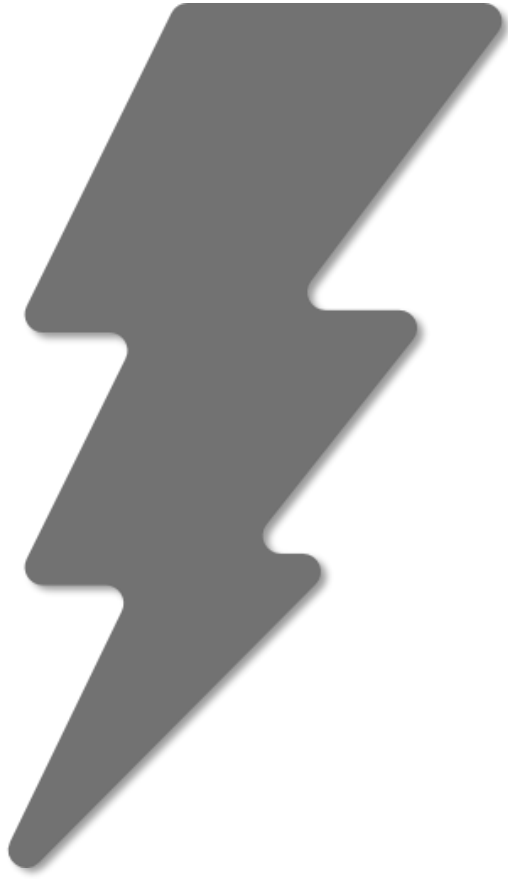
# Asset Management



How can we get the longest useful life out of our infrastructure, and will we be ready to replace it when necessary?



# Energy Management



What are ways that we can limit the energy needed to treat and deliver safe drinking water?

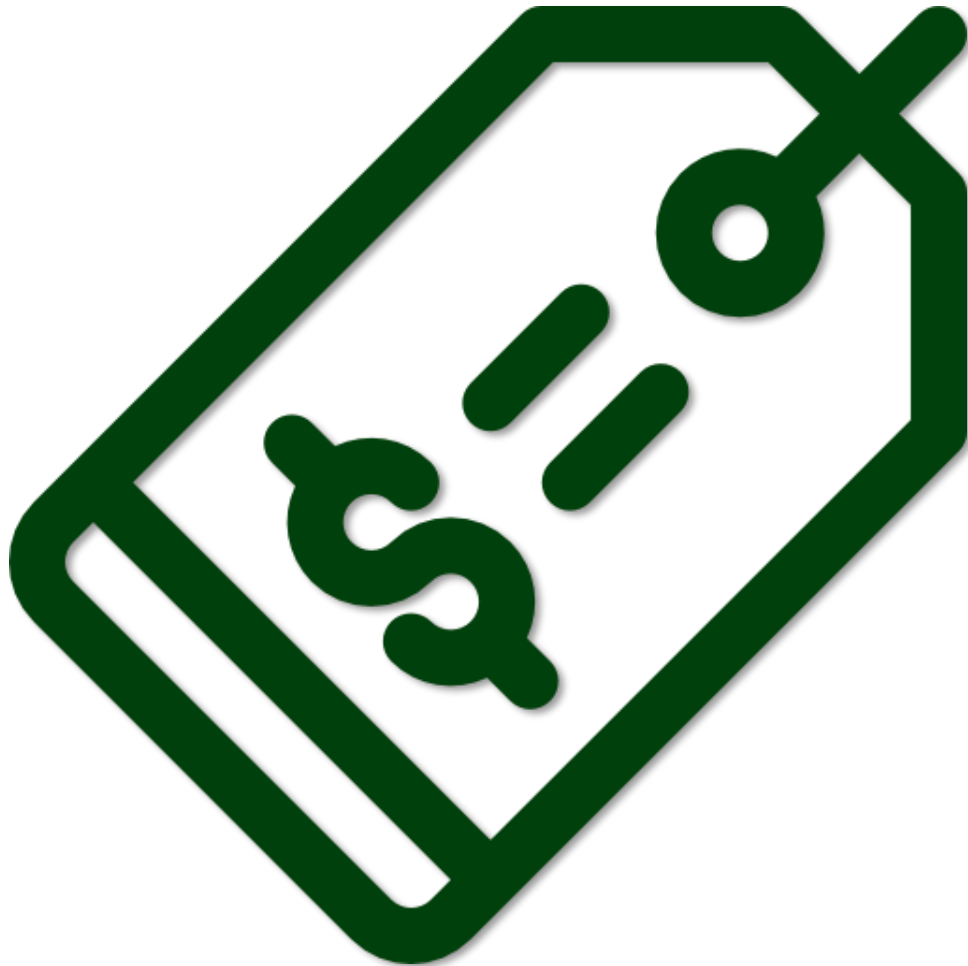


# Water System Partnerships

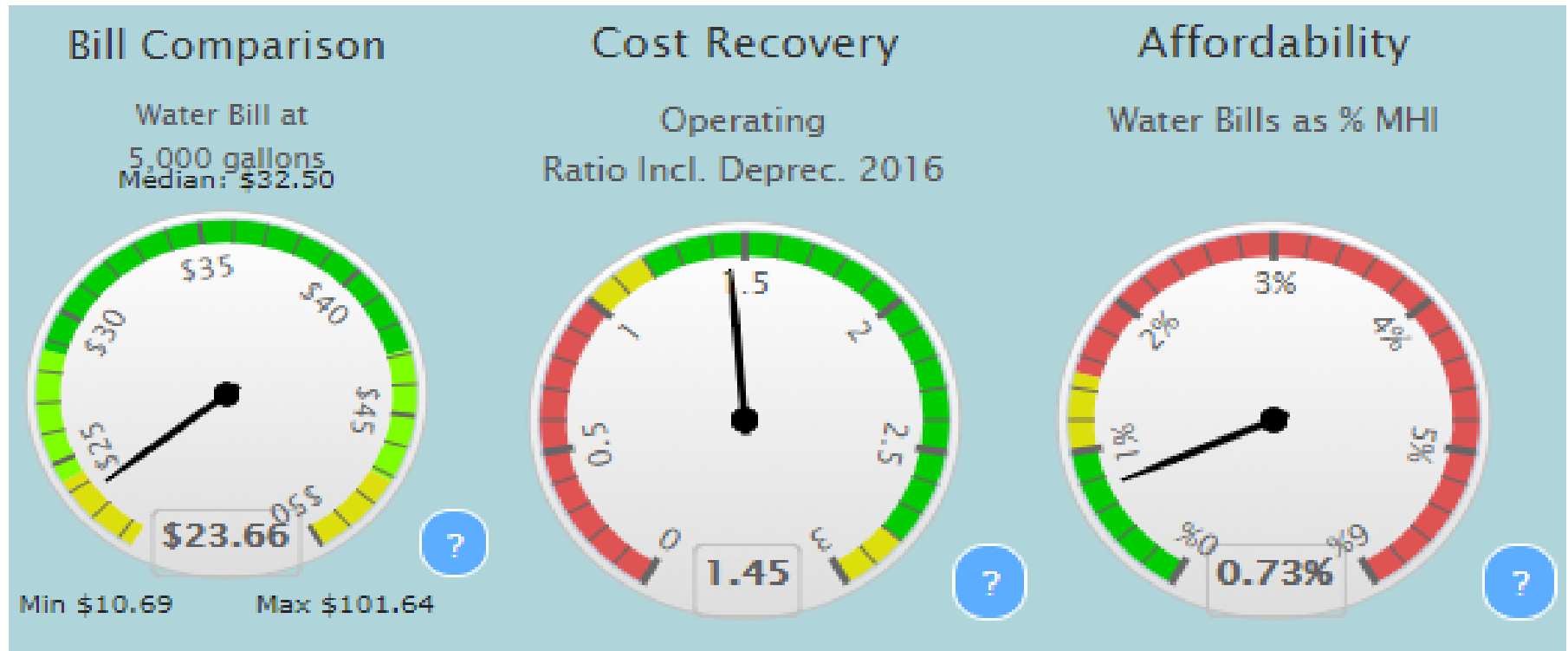


How can water systems work together to save money and improve service?

# Pricing Signals Through Rates



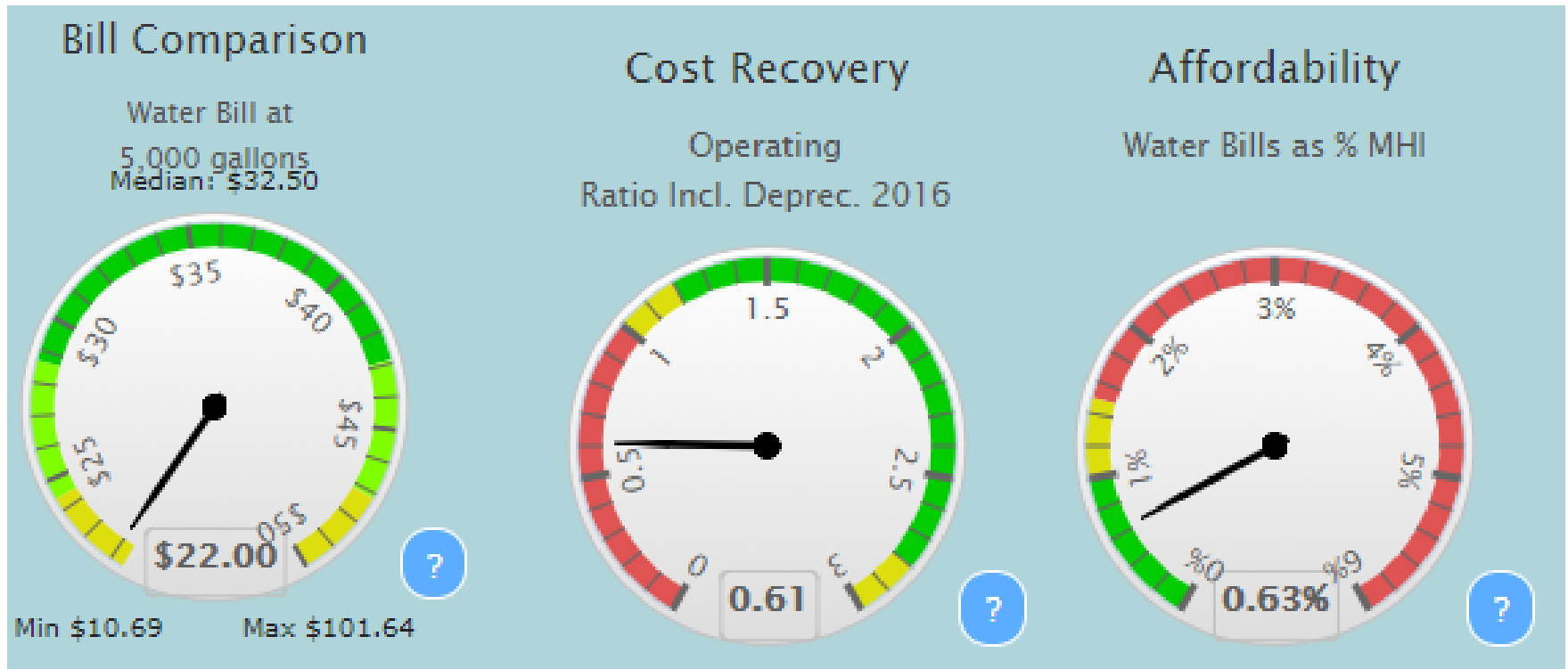
# Low Prices for All



Water system serving about 2,000 people with an MHI below the state average



# Low Prices for All



Water system serving about 600 people  
with an MHI closer to the state average



# Base Charge Includes Lifeline

## WATER RATES

Residential Inside-Monthly Minimum- <u>1st 3,000 Gallons</u>	\$	6.73 (1.98 per 1000 gallon)
Apartment Inside-Monthly Minimum-1st 3,000 Gallons	\$	6.73 (1.98 per 1000 gallon)
Commercial Inside-Monthly Minimum-1st 3,000 Gallons	\$	16.79 (1.98 per 1000 gallon)

Wilkesboro, NC



# Increasing Block with Low 1<sup>st</sup> Block

## **Base Water Rates (residential *effective 4/1/2015*)**

Line Size	Inside City Limits	Outside City Limits
5/8 – 3/4 inch line	\$ 15.50	\$ 25.20
1 inch line	\$ 15.50	\$ 25.20

## **Volume Rate (residential *effective 4/1/2015*)**

1 <sup>st</sup> 2,000 gallons	\$ 2.50 per 1,000 gal.	\$ 3.00 per 1,000 gal.
2,001 – 6,999 gallons	\$ 7.20 per 1,000 gal.	\$ 8.00 per 1,000 gal.
7,000 + gallons	\$ 9.00 per 1,000 gal.	\$ 9.00 per 1,000 gal.

Winder, GA



# Increasing Block with Low 1<sup>st</sup> Block

May 2016					
Description	Usage	Water		Sewer	
		Base Rate	Tier Rate	Base Rate	Tier Rate
Residential					
5/8" meter		\$10.05		\$10.73	
Tier 1	1k-3k		\$2.37		\$2.56
Tier 2	4k-7k		\$5.68		\$6.02
Tier 3	8k-20k		\$7.03		\$6.02
Tier 4	>20k		\$8.44		\$6.02

Clayton County, GA

# Rates for Special Classes of Customers



## ***2017 QUARTERLY RATES***

**WATER**                      **\$39.57    0 – 5,000 Gallons**  
**\$ 6.60    Per T/Gallons 5,000 +**

## ***2017 SENIOR RATES***

**Water**                      **\$ 35.61    0 – 5,000 Gallons**  
**\$ 5.94    Per T/Gallons 5,000 +**

Plymouth Village Water and Sewer, NH

# Income Based Rates



**Combined  
Water & Sewer**

**Quantity Charges  
CCF / Mo.**

**1st  
300 cf**

**Over  
300 cf**

**RESIDENTIAL  
WATER**

**2017 10.00%**

**2017 Regular Residential**

**1.47**

**2.46**

**2017 Low Income Residential**

**1.33**

**2.21**

**(90 % of Regular Residential)**

**Great Falls, MT**

# Income Based Rates

[SERVICES ▼](#)[PROGRAMS & INITIATIVES](#)[NEWS & EVENTS](#)[PUBLICATIONS & FORMS](#)

[Home](#) / [Press releases](#) / [Office of the Mayor](#) / Philadelphia Launches New, Income-Based, Tiered Assistance Program

## Philadelphia Launches New, Income-Based, Tiered Assistance Program



**For immediate release:** June 20, 2017 | **Published by:** [Office of the Mayor](#) | **Contact:** Mike Dunn [Mike.Dunn@phila.gov](mailto:Mike.Dunn@phila.gov) (215) 686-6210

PHILADELPHIA- The City of Philadelphia today announced a new affordability program for low-income customers and those with special hardships to help reduce their monthly water bills. The Tiered Assistance Program (TAP) provides customers with significant savings by offering a consistent bill based on their income. Applications will be available beginning July 1.

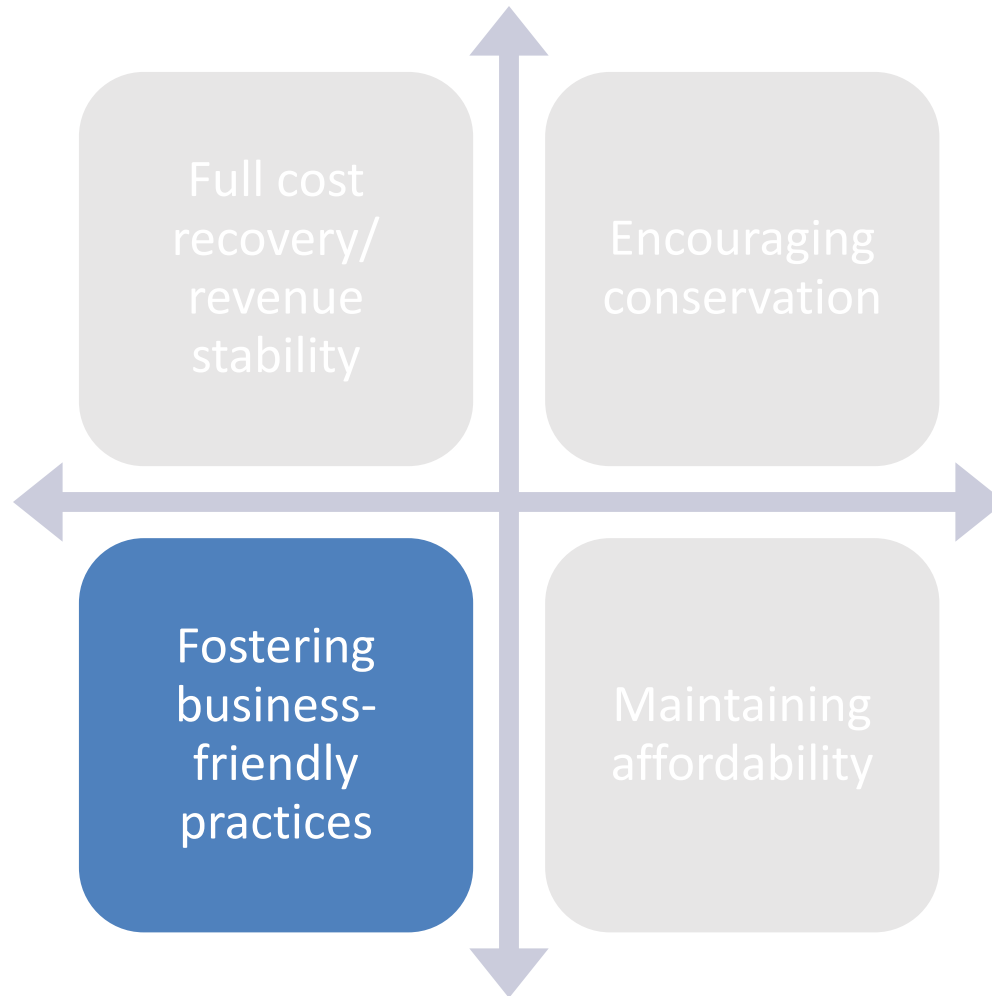
“TAP improves upon the City’s existing customer assistance programs by easing the financial burden on City residents most in need,” remarked Mayor Jim Kenney. “We are committed to making basic human services affordable for all citizens of Philadelphia, and this program is designed to do just that, which benefits the city as a whole.”

Program highlights:

- Customers do not have to be behind on their bill
- Expanded eligibility: approximately 60,000 customers are now eligible



# Business Friendly Practices







# Why Do This?

- Increase water sales
- Increase wastewater revenue
- Increase the local tax base
- Create jobs



What does your system do to foster business-friendly practices and promote economic development?

# Non-Price Strategies



# Waiving Connection Fees

To fight downtown blight,  
North Bend approves  
waiver for new businesses

CAROL LADWIG • Tue Sep 12th, 2017 12:56pm • NEW



Empty buildings and downtown blight  
North Bend soon, but only time will tell

"I hope it's successful, in time," said  
the action, a waiver of water and  
businesses into the city's history  
we'll change it."

The action, approved in a 6-1 vote will  
allow City Administrator Londi Lindell to  
Facilities Charges (GFCs) for specific target businesses, provided  
business owners have made an equivalent amount in property  
improvements, in buildings that have been vacant for at least a year.

The target businesses are primarily restaurants, breweries and other  
businesses with a high level of water use. The GFC waiver specifies the

"The target businesses  
are primarily  
restaurants, breweries  
and other businesses  
with a high level of  
water use."



# Bill Discounts for New Businesses

## **Discounts and Incentive Programs**

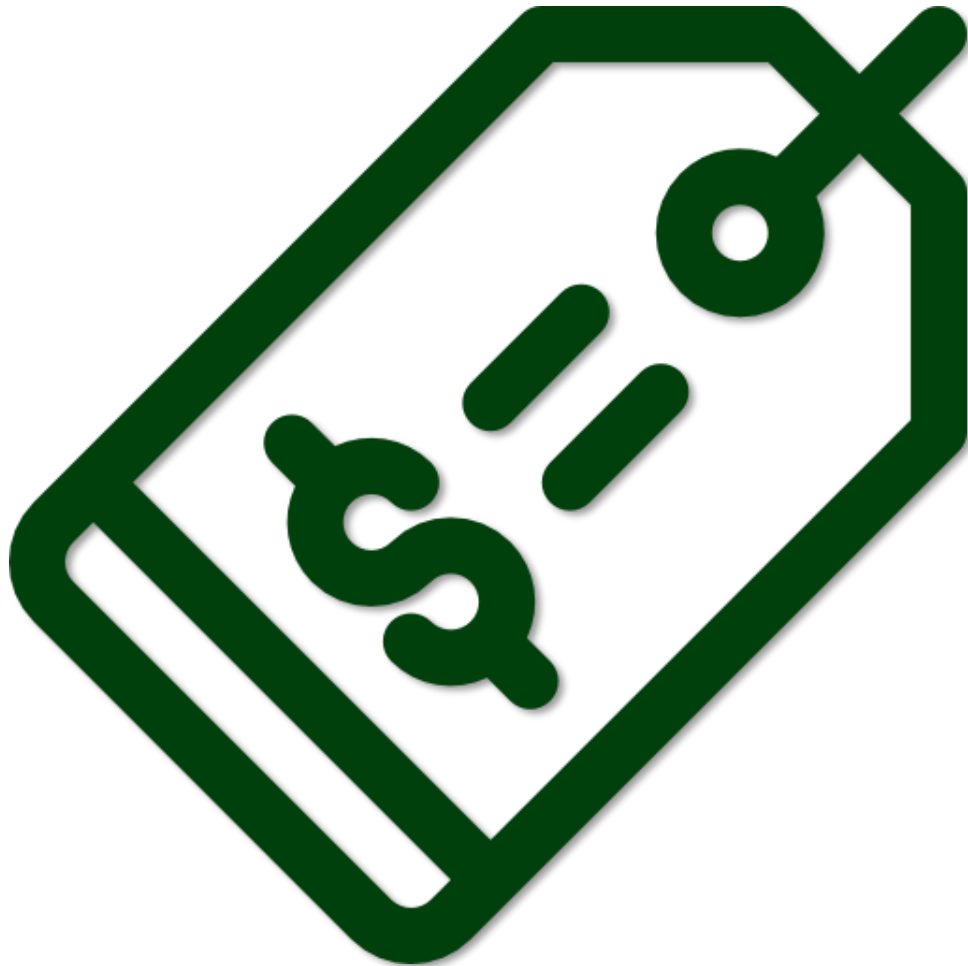
New qualifying Commercial customers are subject to Incentive Commodity Charges for the first forty-eight months of usage according the following schedule:

First 12 months of Billing .....	60% of approved commodity rate
Second 12 months of Billing.....	70% of approved commodity rate
Third 12 months of Billing .....	80% of approved commodity rate
Fourth 12 months of Billing .....	90% of approved commodity rate

Qualifications will be determined by the Hannibal Board of Public Works on a case-by-case basis and will consider such things as number and value of local jobs created, length and size of required water main extensions, and estimated annual consumption.

Hannibal, MO

# Pricing Signals Through Rates







# Cheaper Commercial or Industrial Rates

The following monthly water rates are effective for residential and business customers:

## **Inside City Limits:**

First 2,000 gallons or less per month	\$10.00
Over 2,000 gallons per month (per 1,000/gal)	\$ 1.85

## **INDUSTRIAL CUSTOMERS** **WATER and SEWER RATES**

First 3,000 gallons or less per month	\$6.75
Over 3,000 gallons up to 300,000 gal./per M gal	\$0.68
Over 300,000 gal up to 500,000 gal/per M gal	\$0.62
Over 500,000 gal up to 1,500,000 gal/per M gal	\$0.55
Over 1,500,000 gal/per M gal	\$0.53

Camilla, GA





# Cheaper Commercial or Industrial Rates

## **Residential Rates**

0 - 2,000 (Minimum)  
2,001 - 6,000  
6,001 - 10,000  
10,001 - 20,000  
All Over 20,000

## **Current Rates**

\$19.67  
\$5.79 / 1,000 gals.  
\$6.14 / 1,000 gals.  
\$9.22 / 1,000 gals.  
\$10.75 / 1,000 gals

## **Commercial Rates**

0 - 2,000 (Minimum)  
2,001 - 48,000  
All Over 48,000

\$29.49  
\$3.51 / 1,000 gals.  
\$4.10 / 1,000 gals.

## **Agricultural Rates**

0 - 2,000 (Minimum)  
2,001 - 48,000  
All Over 48,000

\$21.45  
\$2.57 / 1,000 gals.  
\$3.57 / 1,000 gals.

Wayne Water District, NC



# Decreasing Block Rates

## **COMMERCIAL WATER:**

0 to 2000 gallons:-----\$21.25 Minimum Bill

Additional: -----\$7.00 2001 – 12,000 gal

\$6.75 12,001 – 27,000 gal

\$6.50 27,001 gallon & up

Ardmore, AL



# Decreasing Block Rates

**WATER RATES –**

**CONSUMPTION RATES –**

**1000 – 1,000,000 = 3.75 per 1,000**

**1,000,000 + = \$0.30 per 1,000**

**BASE RATE –**

**80.00 per residential unit**

**150.00 per commercial unit**

Lancaster, NH



# Increasing then Decreasing Block Rates

## Water Rates

EFFECTIVE JUNE 1, 2010 (ROUTES 1-9)

FIRST – 2000	GALLONS	\$12.30
2001-3000	GALLONS	\$3.30 PER 1000
3001-10,000	GALLONS	\$3.60 PER 1000
OVER 10,000	GALLONS	\$2.70 PER 1000

Chattooga County, GA



# Block Size Based on Meter Size

## 1" Meter (All Classes)

1 to 32,000 Gallons	\$6.72
Over 32,000 Gallons	\$10.34

## 1 ½" Meter (All Classes)

1 to 106,000 Gallons	\$6.72
Over 106,000 Gallons	\$10.34

## 2" Meter (All Classes)

1 to 195,000 Gallons	\$6.72
Over 195,000 Gallons	\$10.34

## 3" Meter (All Classes)

1 to 434,000 Gallons	\$6.72
Over 434,000 Gallons	\$10.34

A. Petersen Water Company, AZ

# Block Size Based on Meter Size

## Water Consumption Charges - Per 1,000 Gallons

5/8" Meter	Rate
1 <sup>st</sup> Tier (0,001 – 10,000 gallons per month)	\$ 2.75
2 <sup>nd</sup> Tier (10,001 – 17,000 gallons per month)	\$ 4.60
3 <sup>rd</sup> Tier (17,001 – 24,000 gallons per month)	\$ 6.10
4 <sup>th</sup> Tier (24,001 and above per month)	\$ 7.10
3/4" Meter	Rate
1 <sup>st</sup> Tier (0,001 – 15,000 gallons per month)	\$ 2.75
2 <sup>nd</sup> Tier (15,001 – 25,500 gallons per month)	\$ 4.60
3 <sup>rd</sup> Tier (25,501 – 36,000 gallons per month)	\$ 6.10
4 <sup>th</sup> Tier (36,001 and above gallons per month)	\$ 7.10
1" Meter	Rate
1 <sup>st</sup> Tier (0,001 – 25,000 gallons per month)	\$ 2.75
2 <sup>nd</sup> Tier (25,001 – 42,500 gallons per month)	\$ 4.60
3 <sup>rd</sup> Tier (42,501 – 60,000 gallons per month)	\$ 6.10
4 <sup>th</sup> Tier (60,001 and above gallons per month)	\$ 7.10

Metropolitan Domestic Water Improvement District, AZ

# Negotiated Rates with Specific Large Customers



## **Residential & Light Commercial**

First 2000	\$ 18.57
Next 3000	\$ 7.81
Next 5000	\$ 7.30
Next 5000	\$ 7.27
All Over	\$ 5.83

## **Commercial I (American Protein)**

All per thousand \$ 5.73

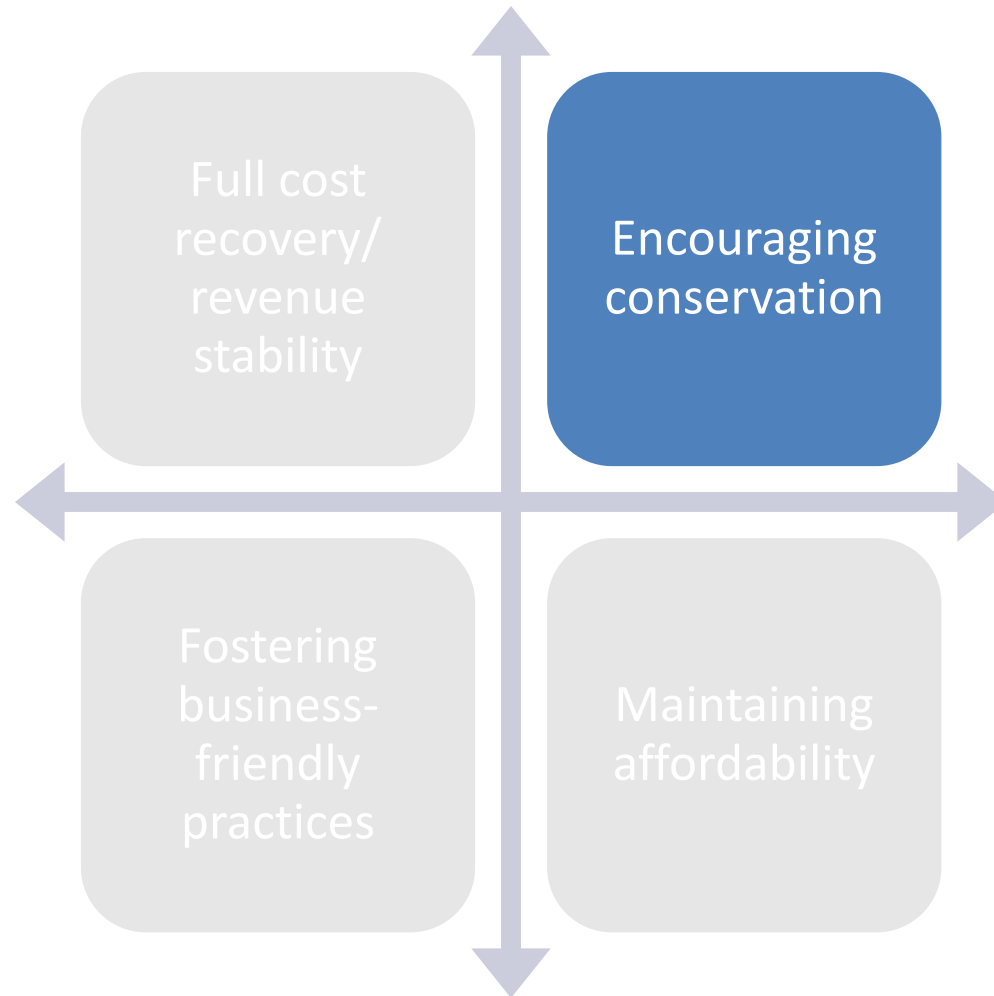
## **Commercial II (Topre & Nafco)**

All per thousand \$ 5.13

Cullman County, AL



# Encouraging Conservation





UNC  
ENVIRONMENTAL  
FINANCE CENTER

## NC Water and Wastewater Rates Dashboard

Rates as of January 1, 2017

Last updated: October 4, 2017



Graham

Rates Comparison

Financial Benchmarks

Characteristics

Links

Edit Data or Add Utility

Select residential bill and monthly consumption amount

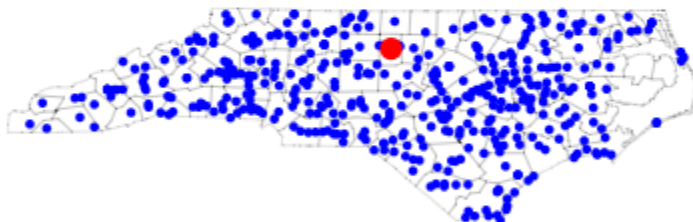
☒ Water Bill ☐ Sewer Bill ☐ Water + Sewer Bill



Monthly Water Bill: \$24.05

Select comparison group: All Utilities

Comparing to all utilities in survey

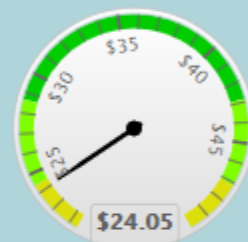


448 rate structures compared

Effects of raising rates by: 0%

### Bill Comparison

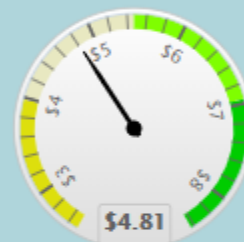
Water Bill at  
5,000 gallons  
Median: \$32.50



Min \$10.69 Max \$101.64

### Conservation Signal

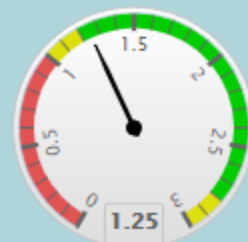
Water Price/1,000 gallons, after  
10,000 gallons  
Median: \$4.83



Min \$0.50 Max \$20.00

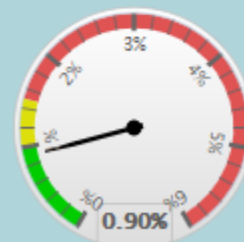
### Cost Recovery

Operating  
Ratio Incl. Deprec. 2016



### Affordability

Water Bills as % MHI





# Why Do This?

- Lack of source water
- Growing population
- Nearing storage or treatment capacity
- Drought
- Environmental benefits



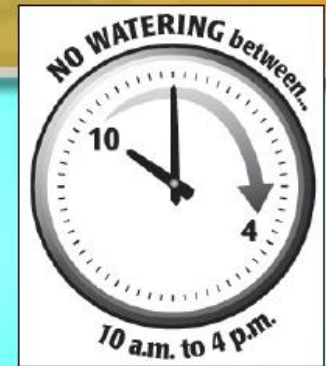
What does your system do to encourage conservation?

# Non-Price Strategies



# Regular Water Use Restrictions

SOUTH FLORIDA WATER MANAGEMENT DISTRICT						
SFWMD 3-Day-A-Week Watering						
WATERING DAYS AND TIMES						
IF YOUR HOME ADDRESS ENDS IN...		1, 3, 5, 7, 9		0, 2, 4, 6, 8		
Monday	Before 10 am	✓				
	After 4 pm		✓			
Tuesday	Before 10 am			✓		
	After 4 pm				✓	
Wednesday	Before 10 am	✓				
	After 4 pm		✓			
	Before 10 am			✓		



Restrict days of the week

Restrict time



# Drought Restrictions

## Water Use Restrictions

### Water Restrictions Continue in 2016

With California still experiencing severe drought despite recent rains, the State Water Board adopted an extended and revised emergency regulation to ensure that urban water conservation continues in 2016. You can learn more about the regulation [here](#).

### Outdoor Watering Restrictions for Sonoma County Water Districts

#### When is it OK to water outdoors?

Outdoor watering for ornamental landscaping is limited to two days a week: Tuesday and Friday, between 12:00 AM and 6:00 AM, or between 8:00 PM and 11:59 PM. Restrictions do not apply to food grown for consumption.

- Sunday: Outdoor watering is not permitted.
- Monday: Outdoor watering is not permitted.
- **Tuesday: Outdoor watering is OK between 12:00 AM and 6:00 AM, or between 8:00 PM and 11:59 PM.**
- Wednesday: Outdoor watering is not permitted.
- Thursday: Outdoor watering is not permitted.
- **Friday: Outdoor watering is OK between 12:00 AM and 6:00 AM, or**



# Drought Restrictions



# Non-Potable Water for Irrigation



City of  
**Evans, Colorado**

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## Water

[2017 Watering Restriction Information](#)

[+ Billing](#)

[Conservation](#)

[Non-potable Water 101](#)

[Water Master Plan Hydrant Project](#)

## Water

Municipal water systems have been around a long time – almost 4,000 years – and the City of Evans continues this long-standing tradition by ensuring our residents have constant access to the water they need. Whether it be for drinking, cleaning, or cooking, you can rest easy knowing that your water is taken care of.

Not all water is treated to pass drinking standards. In Evans non-potable water can come from a wastewater treatment plant or the Evans ditch, and while it may not be treated, it can still be used in many areas. The City of Evans supplies non-potable water for irrigation, industrial sites, and even everyday items like car washes.





# Help Customers Cut Water Use

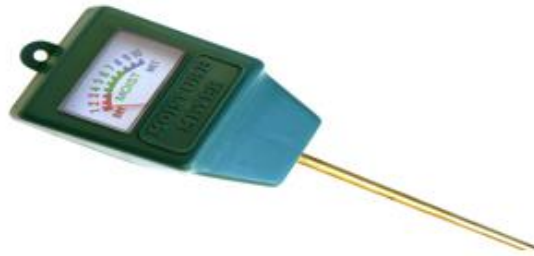
## CITY OF ASHLAND Giveaways

The Water Conservation Department is offering **FREE** showerheads, bathroom aerators, kitchen aerators, and moisture meters. Ask at the front counter for more information!

Showerhead



Moisture Meter



51 Winburn Way

Kitchen aerator



Bathroom aerator



# Help Customers Cut Water Use

Santa Clara Valley  
Water District



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  - [Landscape Conversion Rebates](#)
  - [Irrigation Equipment Upgrade Rebates](#)
  - [Graywater Laundry To Landscape Rebates](#)
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[Programs](#) > [Water Conservation](#) > [Landscaping](#) > [Landscape Conversion Rebates](#)

## Landscape Conversion Rebates

### Landscape Rebate Program

This program is designed to encourage residents and businesses to convert approved high water use landscape, such as lawns and pools, to low water use landscape as well as to retrofit existing irrigation equipment with approved high efficiency irrigation equipment.

The Landscape Rebate Program includes:

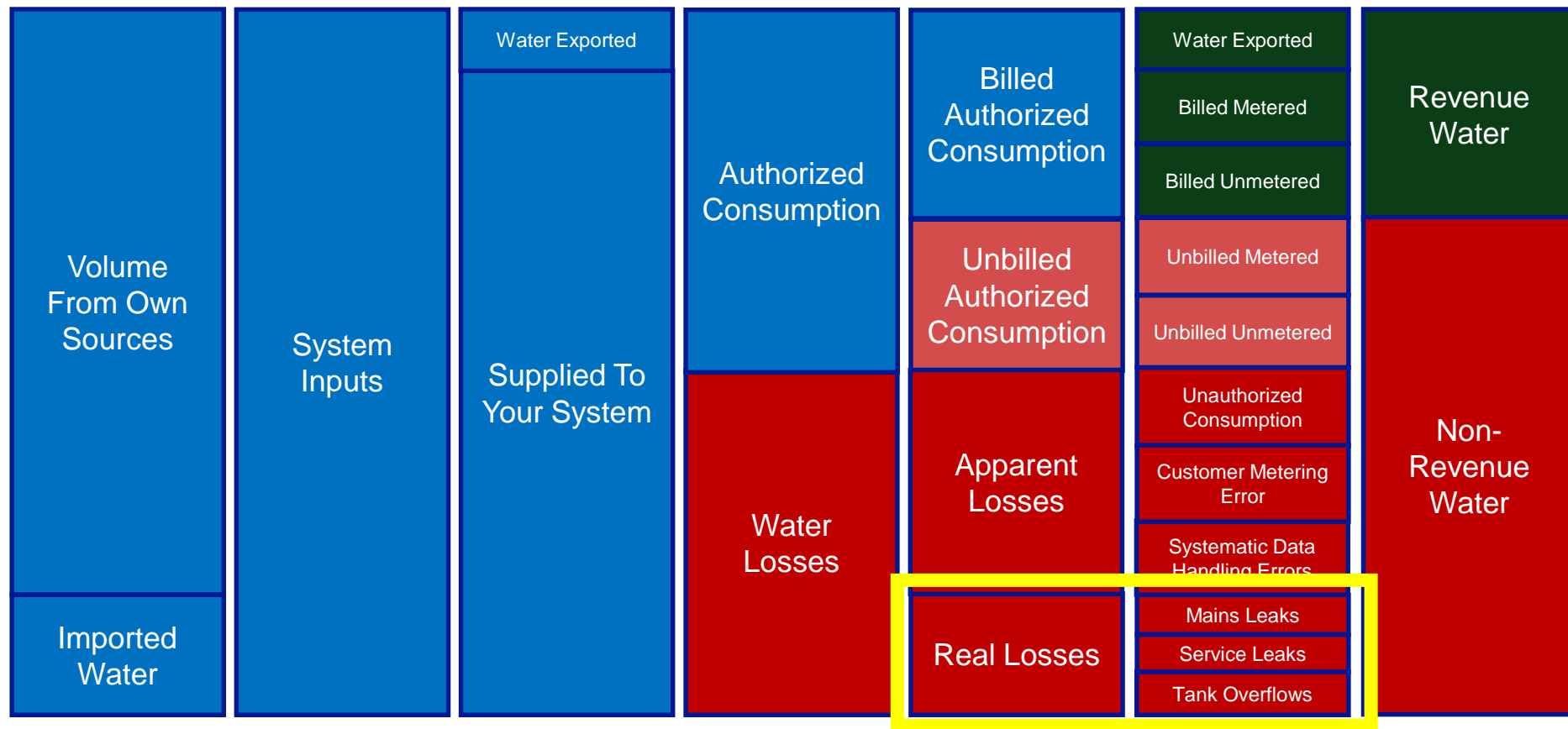
- [Landscape Conversion Rebate](#)
- [In-Line Drip Irrigation Conversion Rebate](#)
- [Irrigation Equipment Upgrade Rebates \(including Weather Based Irrigation Controllers\)](#)



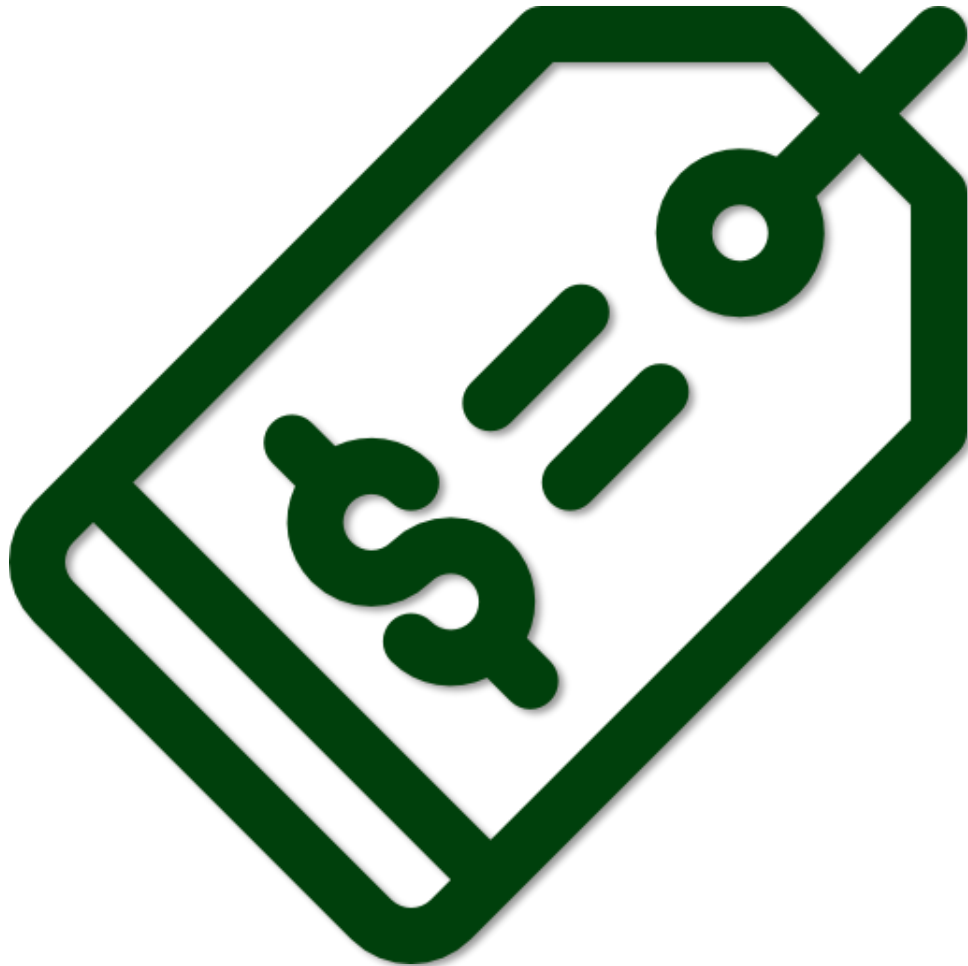
### Important Program Updates

Starting on July 1, 2017, all requests for Pre-Inspections and applications for the Landscape Rebate

# Fix Real Water Loss



# Pricing Signals Through Rates







# Increasing Block Rates

<b>Tier</b>	<b>Water Usage</b>	<b>Rate per 1,000 gallons (\$)</b>
1	First 5,000 gallons or less	\$13.00
2	Next 5,001 – 15,000	\$17.75
3	Next 15,001 – 25,000 (Over 15,000 cattle lessees)	\$18.75
4	25,001 or more for all except cattle lessees	\$19.75

Napu'u Water Inc., HI

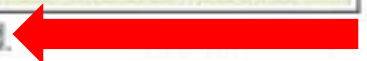


# Increasing Block Rates

## Water Consumption Charges

Water Consumption Charges Effective July 1, 2011		
Consumption/Month (in gallons)*	Residential	Commercial**
0 - 2000	Base Rate (\$20.00)	Base Rate (\$20.00)
Up to 5,000	\$4.50/1,000 gallons	\$4.50/1,000 gallons
Up to 10,000	\$5.50/1,000 gallons	\$5.50/1,000 gallons
Up to 15,000	\$6.50/1,000 gallons	\$6.50/1,000 gallons
Up to 20,000	\$7.50/1,000 gallons	\$7.50/1,000 gallons
All over 20,000	\$8.50/1,000 gallons	\$8.50/1,000 gallons

\* Consumption over 2,000 gallons is billed retroactive to the first gallon used.



Currituck County, NC

# Please Don't Do This!!!!

fixed 1000	Per 1000 gal.	water	Per 1000 gal.	sewer	combined
	rate	11.66	rate	13.10	24.76
2000	2.43	14.09	3.67	16.77	30.86
3000	4.85	18.94	7.41	24.18	43.12
4000	5.65	24.59	7.72	31.90	56.49
5000	5.78	30.37	8.06	39.96	70.33
6000	6.04	36.40	8.21	48.18	84.58
7000	6.23	42.63	8.40	56.58	99.20
8000	6.43	49.06	8.61	65.19	114.24
9000	6.63	55.68	8.79	73.97	129.65
10000	6.63	62.31	8.79	82.76	145.07
11000	6.63	68.93	8.79	91.55	160.48
12000	6.63	75.56	8.79	100.34	175.90
13000	6.63	82.18	8.79	109.13	191.31
14000	6.63	88.81	8.79	117.92	206.72
15000	6.63	95.43	8.79	126.71	222.14
15001-99999999	6.51	102.27	8.99	135.69	237.96



# Low or No Base Charge, Higher Volumetric Charge

## **WHAT ARE THE WATER AND SEWER RATES?**

Water \$2.78 per 100 cubic feet of water.

Sewer \$7.19 per 100 cubic feet of water used.

## **HOW MANY GALLONS ARE THERE IS A 100 CUBIC FEET?**

There are 748 gallons in 100 cubic feet.

## **HOW OFTEN WILL I RECEIVE A WATER/SEWER BILL?**

The Town bills for water/sewer quarterly so you will receive a bill 4 times a year.

## **DOES THE TOWN HAVE ANY ADJUSTMENT FOR FILLING A POOL?**

Farmington, NH



# Seasonal Rates

## **RATES AND CHARGES**

**OCTOBER THROUGH APRIL**

**\$ 3.00 PER 1,000 GALLONS**

**MAY THROUGH SEPTEMBER**

**\$ 4.60 PER 1,000 GALLONS**

**Cactus Stellar Limited, AZ**



# Seasonal Rates

## **TOWN OF IPSWICH WATER & SEWER RATES**

### **WATER RATE**

Non-residential water rate (Base Rate): \$8.33 per 100 cubic feet (Effective May 1, 2016)

Residential water rate (Seasonal Rate):

Summer (May 1, 2017 – September 30, 2017): \$12.50 per 100 cubic feet

Winter (Nov 1, 2016 – April 30, 2017): \$3.38 per 100 cubic feet

Ipswich, MA



# Higher Irrigation Rates

## Gallons of Water Metered

### Residential

0 through 4,000 gallons	\$ 4.56 Per Thousand	\$ 4.56 Per Thousand
4,001 through 9,000 gallons	\$ 6.99 Per Thousand	\$ 6.99 Per Thousand
9,001 gallons and up	\$ 9.42 Per Thousand	\$ 9.42 Per Thousand

### Commercial, Apartments and Mobile Home Parks

0 through 10,000	\$ 5.78 Per Thousand	\$ 5.78 Per Thousand
10,000 and up	\$ 6.95 Per Thousand	\$ 6.95 Per Thousand

### Irrigation

Per thousand gallons	\$ 9.26
----------------------	---------

### Hydrant Meter

Per thousand gallons	\$ 9.26
----------------------	---------

Stockbridge, NC





# Low Supply Surcharges

## COMMODITY RATES PER 1,000 GALLONS PER MONTH BY CONSERVATION STAGE IN EFFECT

(Zero Gallons Included in Base Rate)		Stages 1 & 2	Stage 3 <sup>a</sup>	Stage 4 <sup>a</sup>
1st Tier: 0 – 4,000 Gallons	\$	6.80	6.80	6.80
2nd Tier: 4,001 – 13,000 Gallons	\$	10.20	10.20	10.20
3rd Tier: 13,001 – 20,000 Gallons	\$	12.30	15.00	20.00
4th Tier: 20,001 – 30,000 Gallons	\$	12.42	20.00	40.00
5th Tier: over 30,000 Gallons	\$	12.55	30.00	70.00

<sup>a</sup>

Stage 3 and 4 water resource conditions are reached when any combination of build-out, water use, and adjustments to useable CAP allocation causes 80% or 90%, respectively, of the total useable CAP allocation to be used (see Policies & Procedures).

Tonto Hills Water Improvement District, AZ





# Drought Surcharges

3. That the above rates charged for non wholesale water customers shall be increased for any consumption above 2,000 as follows when the water level at the Lake of Egypt spillway, at any time during a billing cycle, falls below the levels specified:
  - a. 24 inches below spillway rates shall increase \$1.00  
Per thousand gallons
  - b. 30 inches below spillway rates shall increase \$2.00  
Per thousand gallons
  - c. 36 inches below spillway rates shall increase \$3.00  
Per thousand gallons
  - d. 40 inches below spillway rates shall increase \$5.00  
Per thousand gallons
  - e. 48 inches below spillway rates shall increase \$10.00  
Per thousand gallons

Lake of Egypt, IL

<http://efc.web.unc.edu/2015/11/23/key-financial-benchmarks-for-water-systems-conservation-signal/>



## Key Financial Benchmarks for Water Systems: Conservation Signal

NOVEMBER 23, 2015 / GLENN BARNES / 2 COMMENTS

 Print  PDF

At our [workshops](#) and through our discussions with water systems during [technical assistance](#) work, many water systems, in particular small systems, ask what seems like a simple question: “Are our rates right?”

I suspect our initial answer is somewhat unsatisfying: “It depends.”

Even when rates are sufficient to generate the revenues needed for the utility, whether or not rates are “right” depends on what a particular water system

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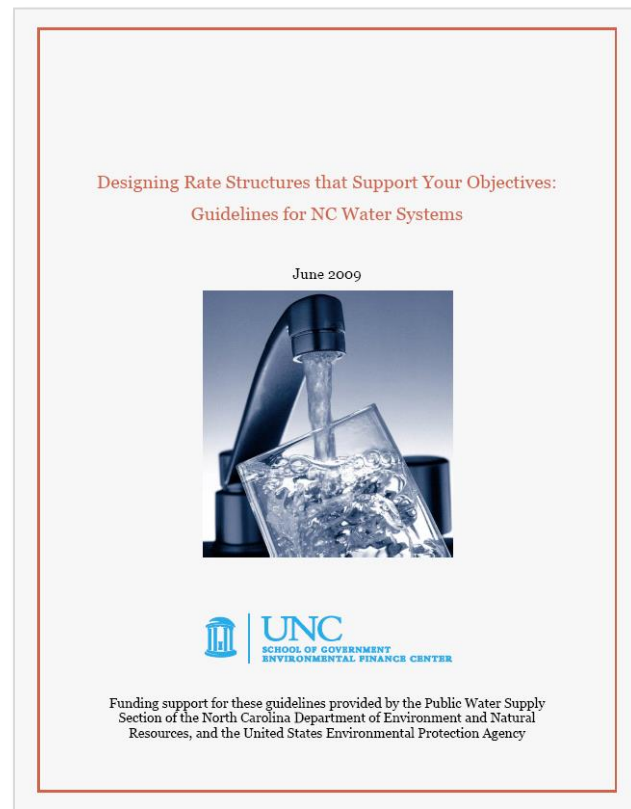
Before we go...

# Designing Rate Structures That Support Your Objectives

Free guide  
written for  
system  
managers

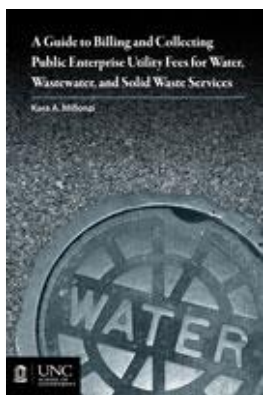
Available at:

<http://efc.sog.unc.edu/>



# School of Government Resources on Enterprise Funds

<http://www.sog.unc.edu/>, click on Publications



## A Guide to Billing and Collecting Public Enterprise Utility Fees for Water, Wastewater, and Solid Waste Services

(Kara Millonzi)

### Jeff Hughes The Painful Art of Setting Water and Sewer Rates

Public government is often criticized for its inability to set rates that cover the cost of services. This is particularly true for water and sewer rates, which are often set below the cost of service. This is a result of political pressure to keep rates low, and of the difficulty of setting rates that cover the cost of service. This article discusses the challenges of setting water and sewer rates, and offers some suggestions for how to overcome these challenges.

**Setting rates**

Public government is often criticized for its inability to set rates that cover the cost of services. This is particularly true for water and sewer rates, which are often set below the cost of service. This is a result of political pressure to keep rates low, and of the difficulty of setting rates that cover the cost of service. This article discusses the challenges of setting water and sewer rates, and offers some suggestions for how to overcome these challenges.

**Water and sewer rates**

In 2001, the U.S. House of Representatives passed a bill that would have required public utilities to set rates that cover the cost of service. This bill was vetoed by President Clinton, and has since been reintroduced several times. It has not yet become law.

**Challenges of setting rates**

There are several challenges to setting water and sewer rates that cover the cost of service. First, there is often political pressure to keep rates low. Second, there is often a lack of information about the true cost of service. Third, there is often a lack of coordination between different agencies that are involved in setting rates.

**Recommendations**

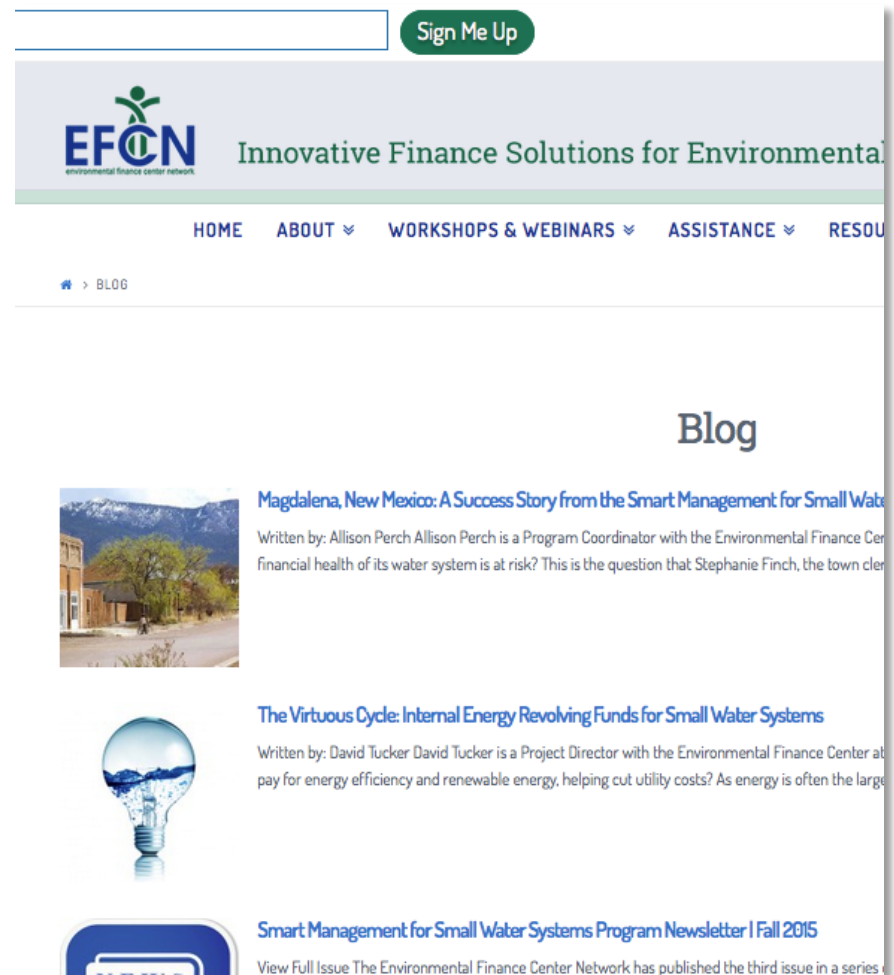
There are several recommendations for how to overcome these challenges. First, there should be more transparency about the true cost of service. Second, there should be more coordination between different agencies. Third, there should be more political pressure to set rates that cover the cost of service.

State	Year	Rate
Alabama	2001	\$1.00
Alaska	2001	\$1.00
Arizona	2001	\$1.00
Arkansas	2001	\$1.00
California	2001	\$1.00
Colorado	2001	\$1.00
Connecticut	2001	\$1.00
Delaware	2001	\$1.00
Florida	2001	\$1.00
Georgia	2001	\$1.00
Hawaii	2001	\$1.00
Idaho	2001	\$1.00
Illinois	2001	\$1.00
Indiana	2001	\$1.00
Iowa	2001	\$1.00
Kansas	2001	\$1.00
Kentucky	2001	\$1.00
Louisiana	2001	\$1.00
Maine	2001	\$1.00
Maryland	2001	\$1.00
Massachusetts	2001	\$1.00
Michigan	2001	\$1.00
Minnesota	2001	\$1.00
Mississippi	2001	\$1.00
Missouri	2001	\$1.00
Montana	2001	\$1.00
Nebraska	2001	\$1.00
Nevada	2001	\$1.00
New Hampshire	2001	\$1.00
New Jersey	2001	\$1.00
New Mexico	2001	\$1.00
New York	2001	\$1.00
North Carolina	2001	\$1.00
North Dakota	2001	\$1.00
Ohio	2001	\$1.00
Oklahoma	2001	\$1.00
Oregon	2001	\$1.00
Pennsylvania	2001	\$1.00
Rhode Island	2001	\$1.00
South Carolina	2001	\$1.00
South Dakota	2001	\$1.00
Tennessee	2001	\$1.00
Texas	2001	\$1.00
Utah	2001	\$1.00
Vermont	2001	\$1.00
Virginia	2001	\$1.00
Washington	2001	\$1.00
West Virginia	2001	\$1.00
Wisconsin	2001	\$1.00
Wyoming	2001	\$1.00

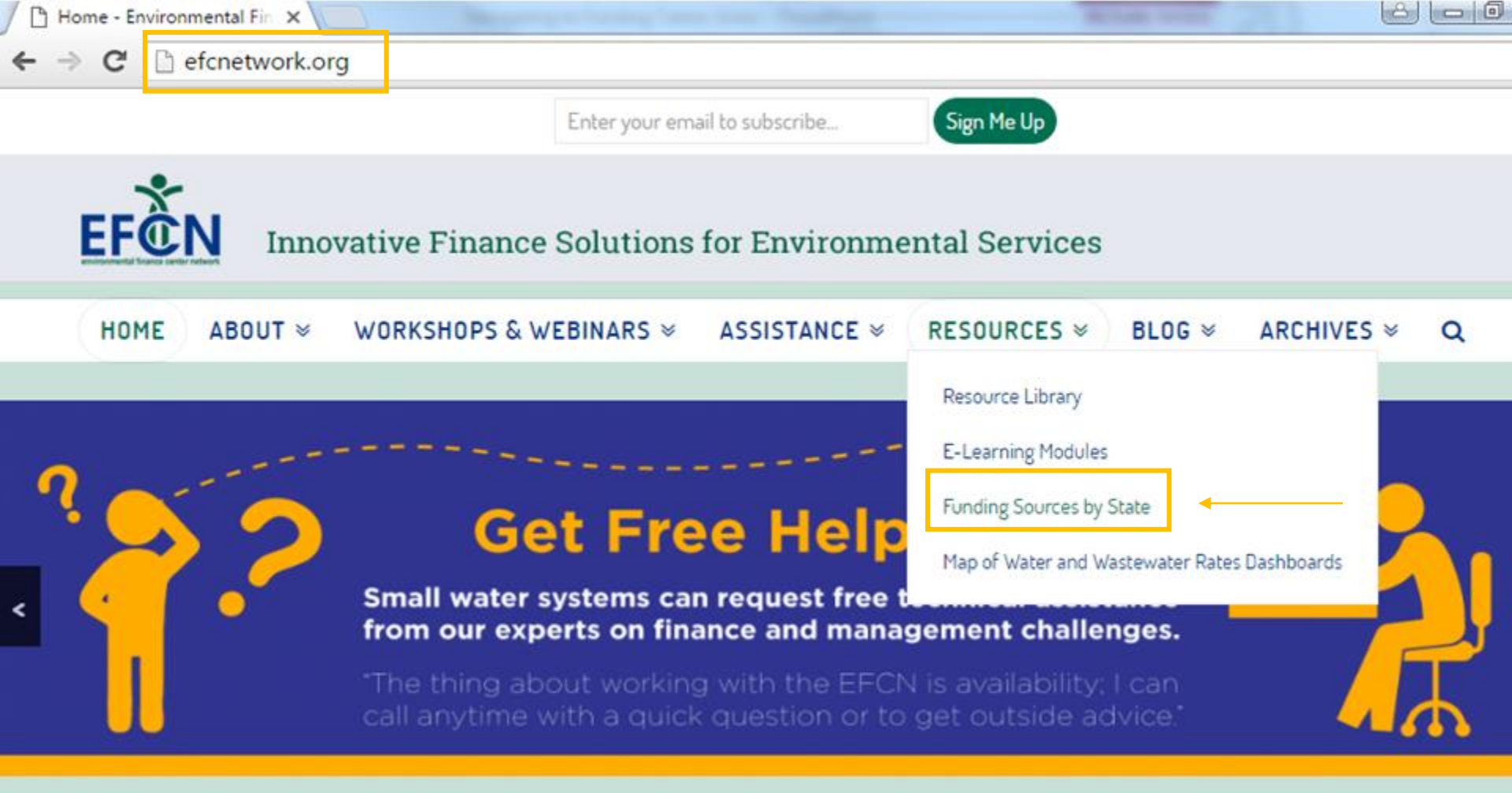
## “The Painful Art of Setting Water and Sewer Rates” (Jeff Hughes)

[http://efcnetwork.org/small\\_systems\\_blog/](http://efcnetwork.org/small_systems_blog/)

Learn more about water finance and management through our Small Systems Blog! Blog posts feature lessons learned from our training and technical assistance, descriptions of available tools, and small systems “success stories.”







## Navigating to Funding Tables

Step 1: efcnnetwork.org

Step 2: Select "Funding Sources by State" under the Resources Tab

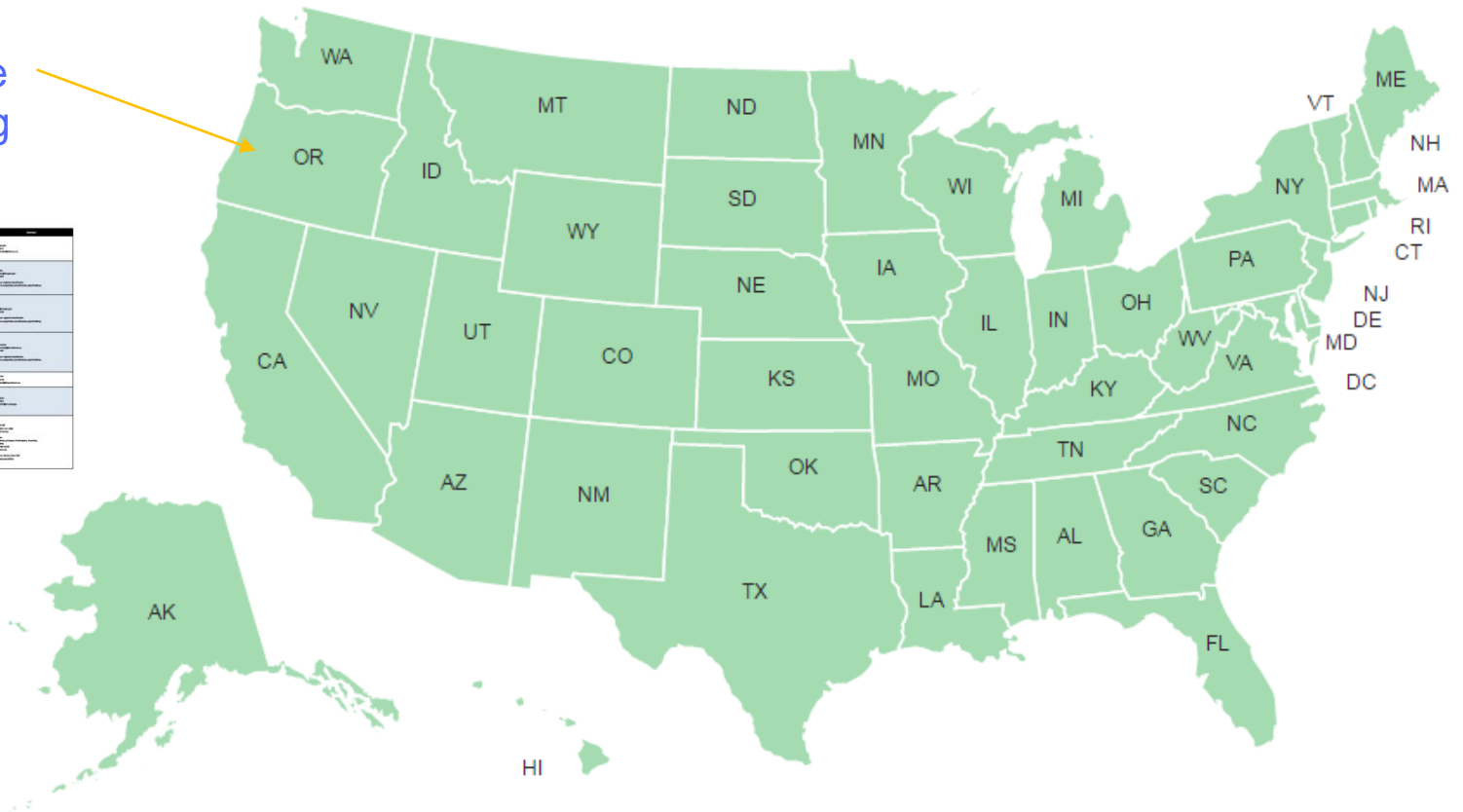


## Funding Sources by State

*Note: Some states may have additional resources listed below the map.*

Click on the map below to view funding sources for each state:

Click on an individual state to view funding table.

[illegible]



### Mission Statement

We work to enhance the ability of government organizations to provide environmental programs and services in fair, effective and financially sustainable ways.

### Upcoming Events

- EcoStream: Southeast Stream Restoration Conference  
Monday, November 17, 2014
- WEBINAR: Energy Management Planning for Systems and the NYSERDA Model  
Tuesday, December 2, 2014
- Environmental Public-Private Partnerships  
Tuesday, December 9, 2014

1 of 2

View all events

### Latest News

- **New Video Series Highlights Critical Financial Challenges for Water Utilities**  
A new series of educational videos produced by the Environmental Finance Center at UNC Chapel Hill, with support from the Water Research Foundation, offers an engaging, accessible, and easily shareable resource on financial management topics designed specifically for water utility governing boards. The WaterClips Video Series describes challenges faced by water utilities across the country using eye catching visualizations and easy to understand explanations of concepts that can otherwise be daunting.
- **The EFC Awarded \$2M for its Smart Management for Small Water Systems Project**  
To improve the country's smallest water systems - those serving fewer than 10,000 people - the U.S. Environmental Protection Agency (EPA) awarded \$2 million to the Environmental Finance Center at the University of North Carolina at Chapel Hill.

1 of 5

<http://www.efc.sog.unc.edu/>

- Tools
- Rates Dashboards
- Blog posts (<http://efc.web.unc.edu>)
- Guidebooks
- Technical Assistance
- Courses
- Videos

### Featured Work

#### FINANCIAL MANAGEMENT

#### WATER UTILITIES

#### Smart Management for Small Water Systems

#### Water & Wastewater Residential Rates Affordability Assessment Tool

#### Arizona Water and Wastewater Rates and Rate Structures

#### WaterClips Video Series

#### Water & Wastewater Residential Rates Affordability Assessment Tool

#### Smart Management for Small Water Systems

#### WaterClips Video Series

#### Arizona Water and Wastewater Rates and Rate Structures

#### WaterClips Video Series

#### Water & Wastewater Residential Rates Affordability Assessment Tool

#### Smart Management for Small Water Systems

#### WaterClips Video Series

#### Arizona Water and Wastewater Rates and Rate Structures

#### WaterClips Video Series

#### Water & Wastewater Residential Rates Affordability Assessment Tool

#### Smart Management for Small Water Systems

#### WaterClips Video Series

#### Arizona Water and Wastewater Rates and Rate Structures

#### WaterClips Video Series

#### Water & Wastewater Residential Rates Affordability Assessment Tool

#### Smart Management for Small Water Systems

#### WaterClips Video Series

#### Arizona Water and Wastewater Rates and Rate Structures

A new series of educational videos produced by the Environmental Finance Center at UNC Chapel Hill, with support from the Water Research Foundation, offers an engaging, accessible, and easily shareable resource on financial management topics designed specifically for water utility governing boards. The WaterClips Video Series describes challenges faced by water utilities across the country using eye catching visualizations and easy to understand explanations of concepts that can otherwise

#### Arizona Water and Wastewater Rates and Rate Structures

The Environmental Finance Center and the Water Infrastructure Finance Authority of Arizona conducted a water and wastewater rates survey of over 400 utilities in the state of Arizona. We used this data to create a summary report, interactive Rates Dashboard, and other resources to assist utilities and their stakeholders in analyzing and benchmarking their current rates and financial condition.

#### Smart Management for Small Water Systems

Through the Smart Management for Small Water Systems project, the EFC works to improve the financial and managerial capabilities of the nation's smallest, most plentiful, and neediest public water systems - those serving fewer than 10,000 people.

#### Water & Wastewater Residential Rates Affordability Assessment Tool

The EFC's new easy-to-use Excel tool guides a utility to assess the relative affordability of its water and wastewater rates on its residential customers using

### Tweets



# A Favor & A Reminder

- Please fill out an eval form for us before you leave
- Contact us anytime for direct technical assistance on any finance and management topic of our project

A blue-tinted photograph of industrial machinery, possibly a water treatment plant, featuring large pipes and valves.

# Thank you!

Glenn Barnes

Environmental Finance Center

University of North Carolina at Chapel Hill

919-962-2789

[glennbarnes@sog.unc.edu](mailto:glennbarnes@sog.unc.edu)