



Water System Revenues

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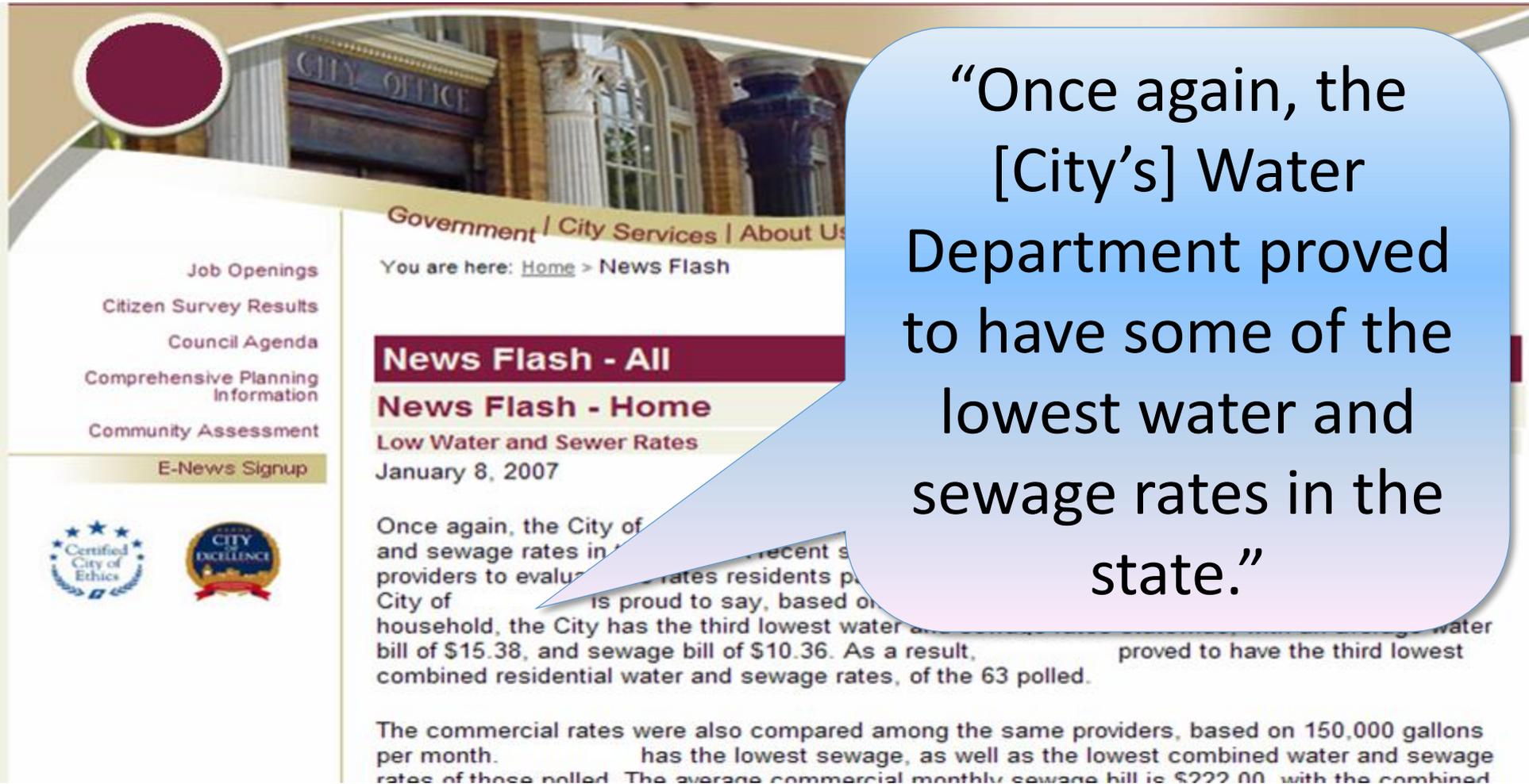
glennbarnes@sog.unc.edu



Session Objectives

- Understand how to pay for the costs of running your water system
- Look more closely at rate structure

Systems Love Low Rates, but...



The image shows a screenshot of a city website's news flash. The page has a header with navigation links: "Government | City Services | About Us". Below the header, it says "You are here: [Home](#) > News Flash". The main content area features a red banner with the text "News Flash - All" and "News Flash - Home". Below this, the title of the news flash is "Low Water and Sewer Rates" with a date of "January 8, 2007". The text of the news flash reads: "Once again, the City of [redacted] and sewage rates in [redacted] recent [redacted] providers to evaluate [redacted] rates residents pay [redacted] City of [redacted] is proud to say, based on [redacted] household, the City has the third lowest water and sewage bill of \$15.38, and sewage bill of \$10.36. As a result, [redacted] proved to have the third lowest combined residential water and sewage rates, of the 63 polled." The text continues: "The commercial rates were also compared among the same providers, based on 150,000 gallons per month. [redacted] has the lowest sewage, as well as the lowest combined water and sewage rates of those polled. The average commercial monthly sewage bill is \$222.00, with the combined [redacted]". On the left side of the page, there is a sidebar with navigation links: "Job Openings", "Citizen Survey Results", "Council Agenda", "Comprehensive Planning Information", "Community Assessment", and "E-News Signup". At the bottom left, there are two logos: "Certified City of Ethics" and "CITY EXCELLENCE".

Government | City Services | About Us

You are here: [Home](#) > News Flash

News Flash - All

News Flash - Home

Low Water and Sewer Rates
January 8, 2007

Once again, the City of [redacted] and sewage rates in [redacted] recent [redacted] providers to evaluate [redacted] rates residents pay [redacted] City of [redacted] is proud to say, based on [redacted] household, the City has the third lowest water and sewage bill of \$15.38, and sewage bill of \$10.36. As a result, [redacted] proved to have the third lowest combined residential water and sewage rates, of the 63 polled.

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Job Openings
Citizen Survey Results
Council Agenda
Comprehensive Planning Information
Community Assessment
E-News Signup

Certified City of Ethics
CITY EXCELLENCE

“Once again, the [City’s] Water Department proved to have some of the lowest water and sewage rates in the state.”



**Will our rates
provide sufficient
cost recovery?**

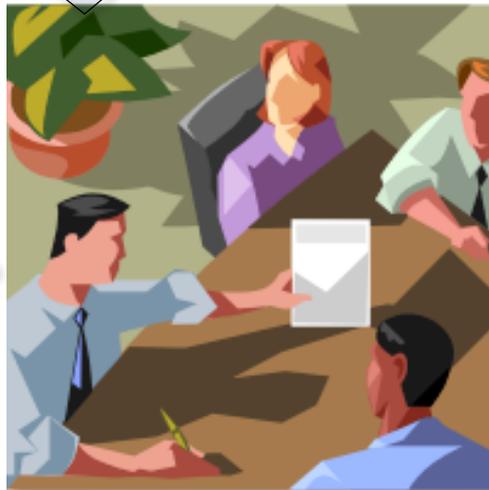
Are we following the applicable laws?

What exactly does this include?

Will revenues be resilient to changing water demands?

Will our customers be able to pay these rates?

Do these rates send the right signals to our customers, based on our objectives?



Will our customers understand these rates?

Are we allocating the costs to the right customers?



“Full Cost Pricing”

- Operations & maintenance expenditures
- Taxes and accounting costs
- Contingencies for emergencies
- Principal and interest on long-term debt
- Reserves for capital improvement
- Source water protection



Non-Rate Revenues

- Penalties
- Cellphone and radio receivers on the tank
- Ads on the tank
- Tap fees
- System development charges



Town of Jacksonville

We charge a flat rate of \$15.00 monthly

P.O. - Box 133
Jacksonville

We ARE a small town we do NOT have sewage



Other Places with a Fixed Rate

- Small town in New York state that charges \$120/year, billed twice
- Trailer park in Ohio that includes water in the monthly rent
- HUD-subsidized apartments that must include water in rent

Other Places with a Fixed Rate

- City of Chicago

Lots of meters
to read

Drinking
water
supply



Chicago is moving to meters now



Enroll Now

Frequently Asked Questions

Water Saving Tips

Check Status & Schedules

Manage Appointment

Add Your Testimonial

Neighborhood Testimonials

Take Survey

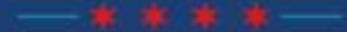
Water Testing



METER SAVE
SAVE WATER
SAVE MONEY!

CALL 311 For A **FREE** Water Meter

www.metersave.org



Homeowners participating in MeterSave will be eligible for a **7-year guarantee** that the home water bill will be no higher than it would have if the meter had not been installed.

The Reef Condos – USVI





The Reef Condos – USVI

- Has residential units and commercial (shops and restaurants)
- Flat rate structure for residents
- Decreasing block for commercial
- Bulk rate for the next condo complex over



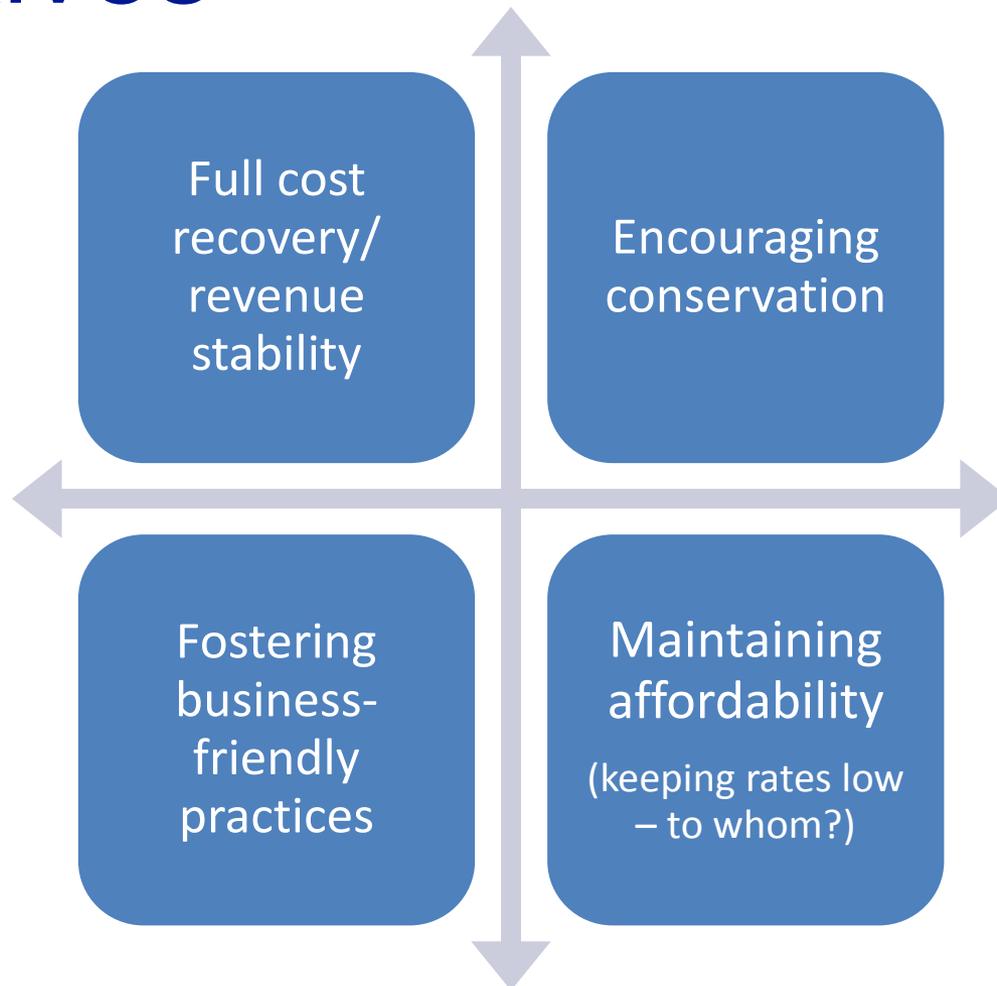
And then there is this...

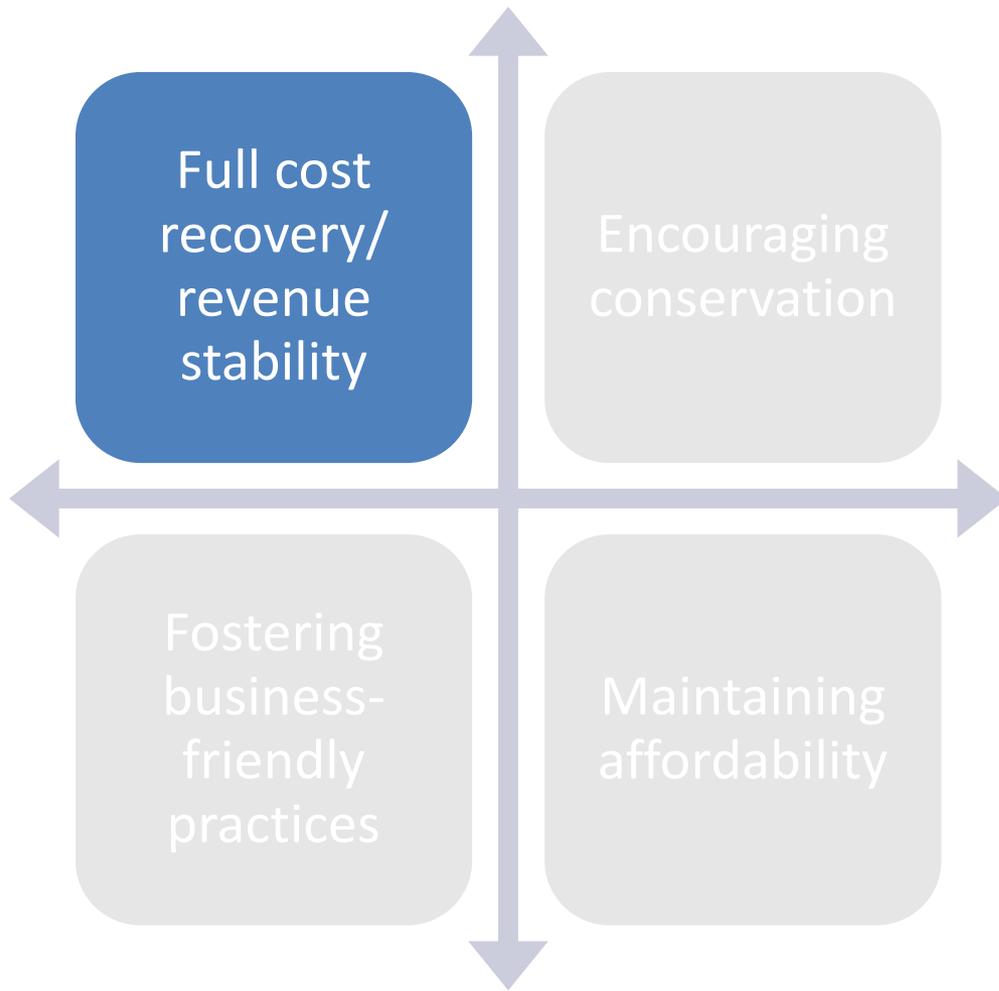
Single outlet (Minimum charge)	\$193.00
One Bath	316.00
1 ½ or 2 Bath	349.00
2 ½ Bath	379.00
3 or more Baths	413.00
Additional apartment/same service	316.00
Swimming pool	126.00
Each Boat slip with water available	16.00
Each Rental or Commercial Mooring	6.15
Each restaurant/snack bar seat	16.00

(Annual Rates)



Rank Your Rate Setting Objectives

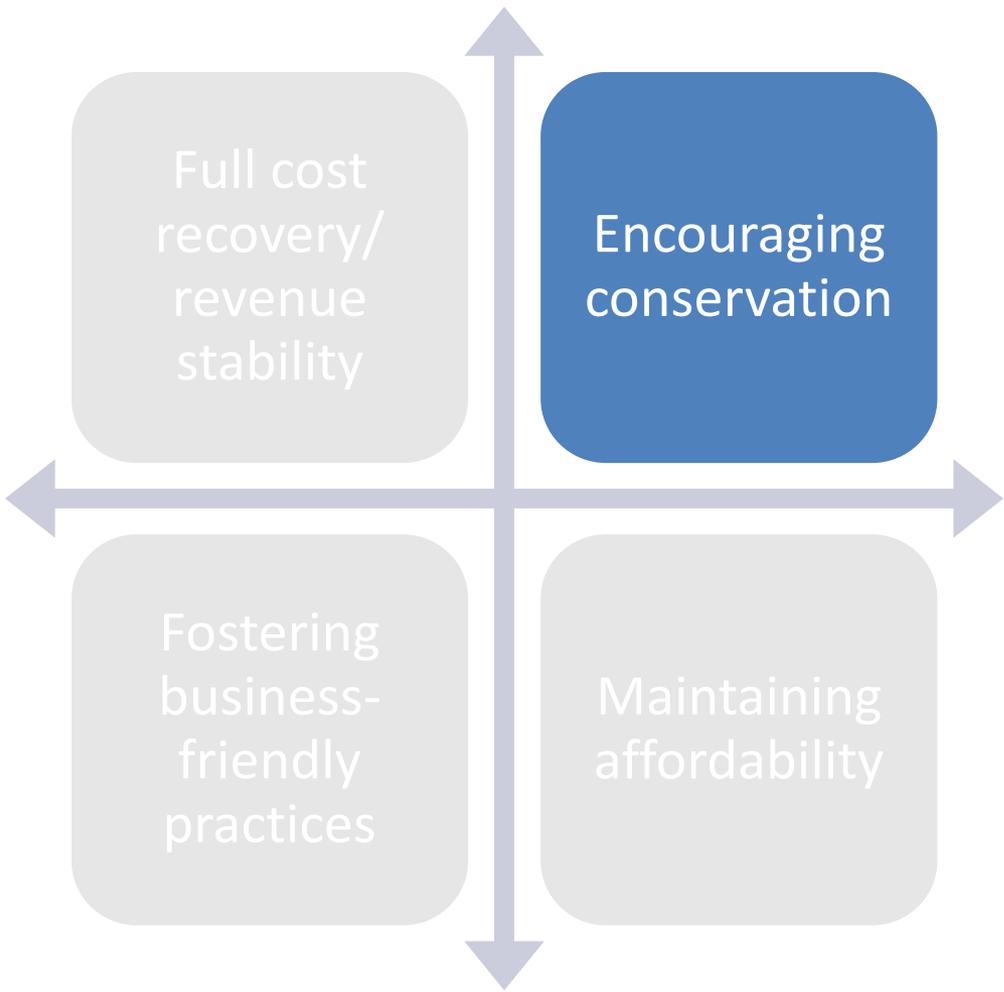




Bring in enough revenue to cover the full cost of running the water system:

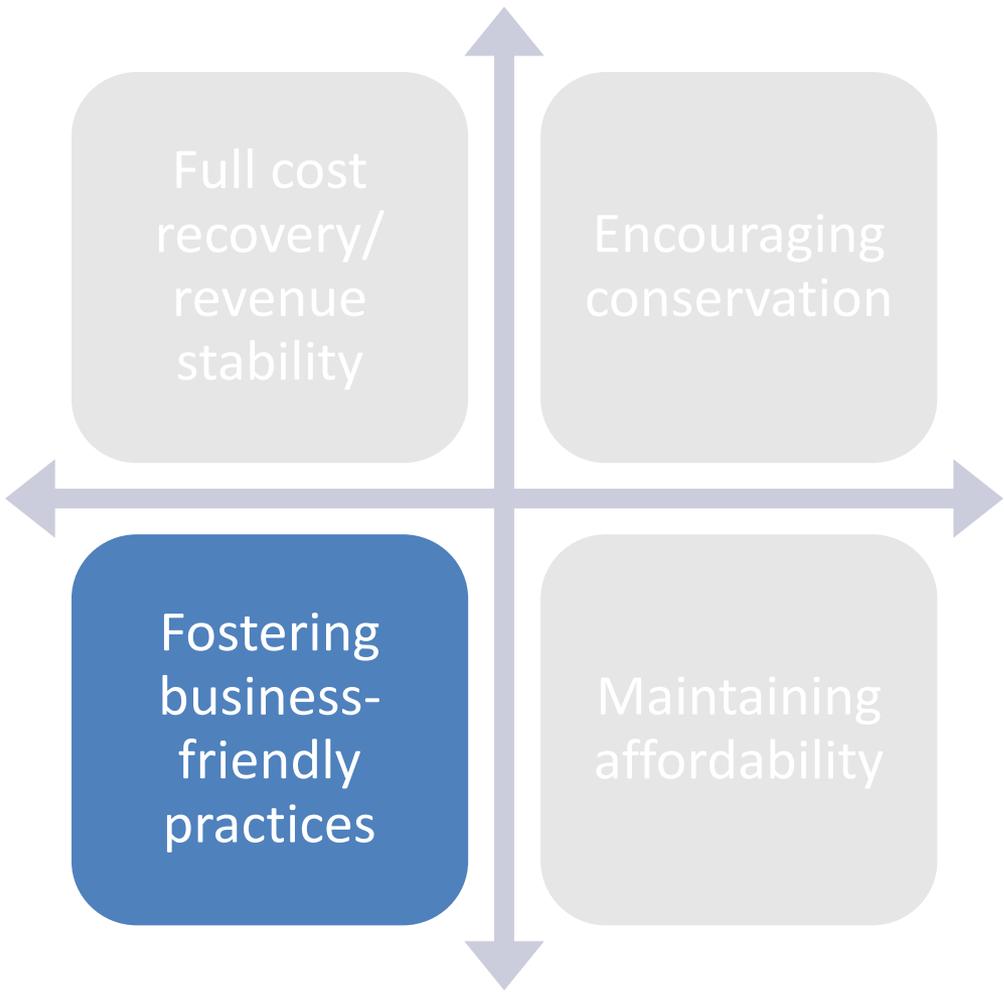
- O&M
- Capital needs
- Debt service

Why do this?



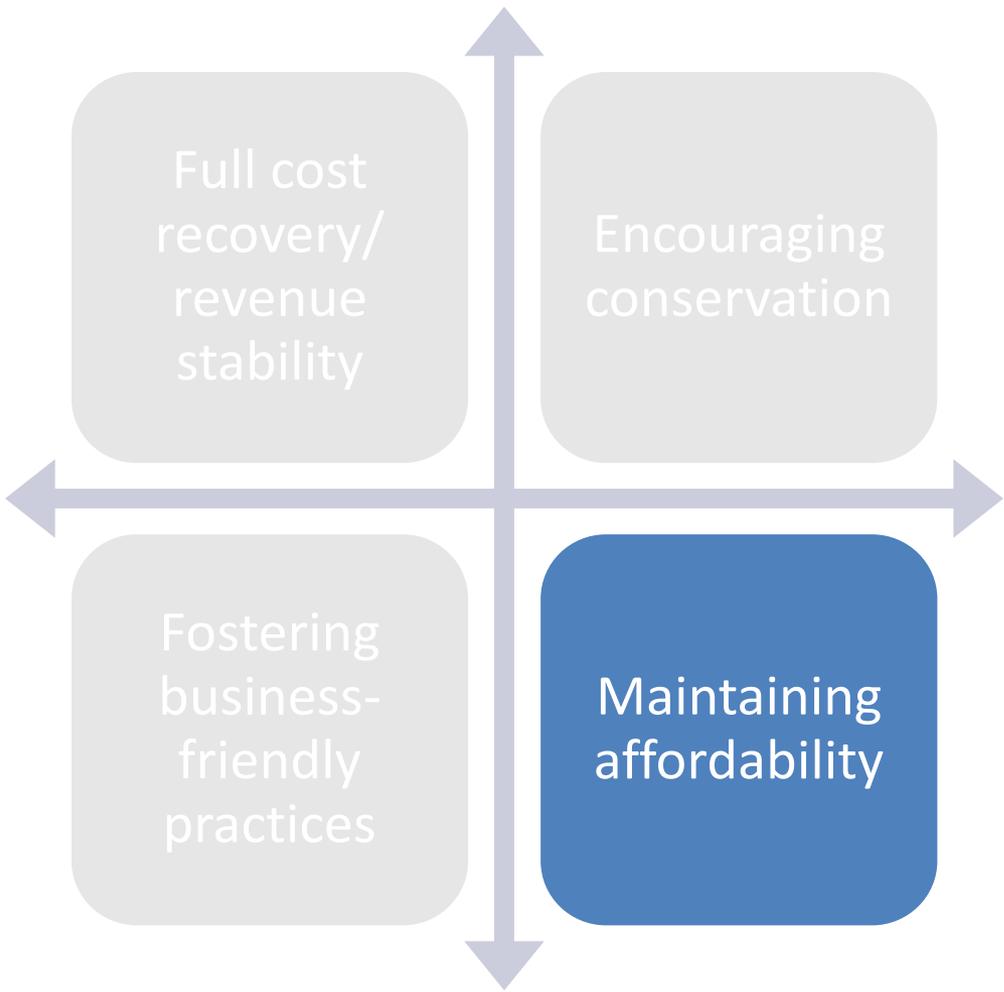
Use pricing to encourage customers to reduce their water consumption

Why do this?



Use pricing to encourage businesses and agriculture to locate to your community or stay in your community

Why do this?



Ensure that all customers in your water system are able to afford enough water to live on

Why do this?



Elements of Rate Structure Designs

1. Customer classes/distinction
2. Billing period
3. Base charge
4. Consumption allowance included with base charge
5. Volumetric rate structure
6. (If applicable) Number of blocks, block sizes and rate differentials
7. Frequency of rate changes



Customer Classes/Distinctions

- One rate structure for all
- Target: All are equal



Brentwood Water Corp., NC

Monthly Minimum:	\$16.50
Water Included w/ Minimum Bill:	1,500/gallons
Additional Water	\$5.55 per thousand gallons



Customer Classes/Distinctions

- Separate rate structure for residential, irrigation, commercial, industrial, governmental, or wholesale customers
- Target: Specific type of customer



City of Stockbridge, GA

Residential

0 through 4,000 gallons	\$ 5.27 Per Thousand
4,001 through 9,000 gallons	\$ 8.10 Per Thousand
9,001 gallons and up	\$ 10.90 Per Thousand

Commercial, Apartments and Mobile Home Parks

0 through 10,000	\$ 6.69 Per Thousand
10,000 and up	\$ 8.03 Per Thousand

Irrigation

Per thousand gallons	\$ 10.72
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Hydrant Meter

Per thousand gallons	\$ 10.72
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Customer Classes/Distinctions

- One rate structure, but with different base charges based on meter size
- Target: Non-residential or multi-family housing



Town of Mount Pleasant, NC

Water Meter Size	0 to 2,000 Gallons	Gallons Over 2,000
Inside Town		
5/8" or 3/4"	\$22.36	\$4.08 /1000
1"	\$41.16	\$4.08 /1000
1 1/2 "	\$113.76	\$4.08 /1000
2" and up	\$219.36	\$4.08 /1000
Outside Town		
5/8" or 3/4"	\$39.13	\$7.14 /1000
1"	\$72.03	\$7.14 /1000
1 1/2"	\$199.08	\$7.14 /1000
2" and up	\$383.88	\$7.14 /1000



City of Stockbridge, GA

Monthly Minimum Base Charge*

<u>Meter Size</u>		<u>Water</u>	<u>Sewer</u>
3/4	Most Residential	\$ 6.00	\$ 6.00
1		\$ 7.00	\$ 7.00
1.5		\$ 37.00	\$ 12.00
2		\$ 100.00	\$ 12.00
3		\$ 175.00	\$ 12.00
4		\$ 225.00	\$ 12.00
6		\$ 300.00	\$ 12.00
8		\$ 400.00	\$ 12.00
10		\$ 700.00	\$ 12.00



Customer Classes/Distinctions

- One rate structure for all, but with blocks that implicitly only target non-residential use
- Target: Non-residential



Union Point, NC

WATER

IN TOWN - 1/23/2006

STEP	RATE	CONSUMPTION
READY TO SERVE	\$21.00	
STEP 1	3.98	300,000
STEP 2	3.84	999,999,999



Customer Classes/Distinctions

- Different rates for customers outside municipal limits/service area boundaries
- Target: “Outside” customers



Town of Mount Pleasant, NC

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Customer Classes/Distinctions

- Negotiated rate structure with individual high-use customers (typically an industrial customer)
- Target: Only one customer



City of Clio, AL

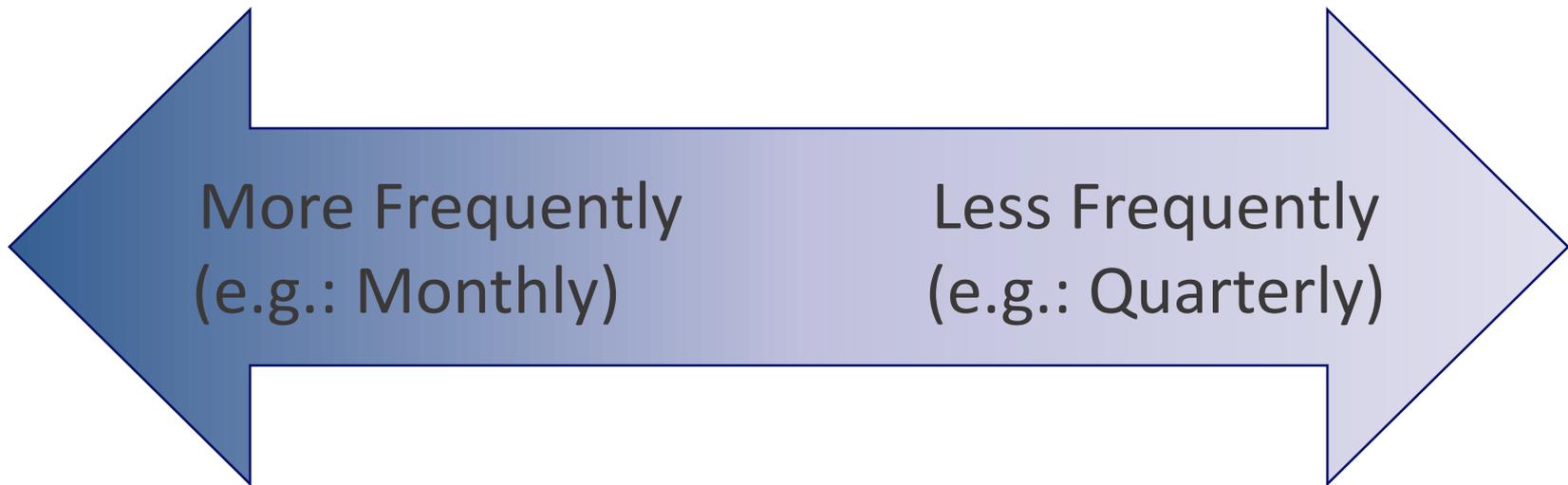
SIGNIFICANT USER: (High volume or High Strength Users)

The City of Clio, Alabama via official action of its City Council reserves the right to enter into separate contracts with significant users on a case by case basis for the purpose of setting and determining a monthly charge or rate for the use of the public sewer system. Said monthly rate and associated fees may be computed upon a different basis than set forth in the paragraphs immediately proceeding. Such contract(s) shall be entered into by means of a resolution duly adopted by the City Council. For purposes of this Sewer Ordinance; unless amended by the City Council, a significant user shall be deemed any non-residential user who (1) has a water consumption of 50,000 gallons or more per month and/or (2) whose wastewater strength exceeds what is generally considered normal residential wastewater.

Significant Users determined to date are: Easterling Correctional Facility
(Ord. 2008-01 \$1.75 per thousand; Ord. 2009-10 \$2.40 per thousand; Ord. 2012-04 \$2.90 per thousand)
Effective June 1, 2015 Easterling Correctional Facility: \$3.40 per thousand. This ordinance.



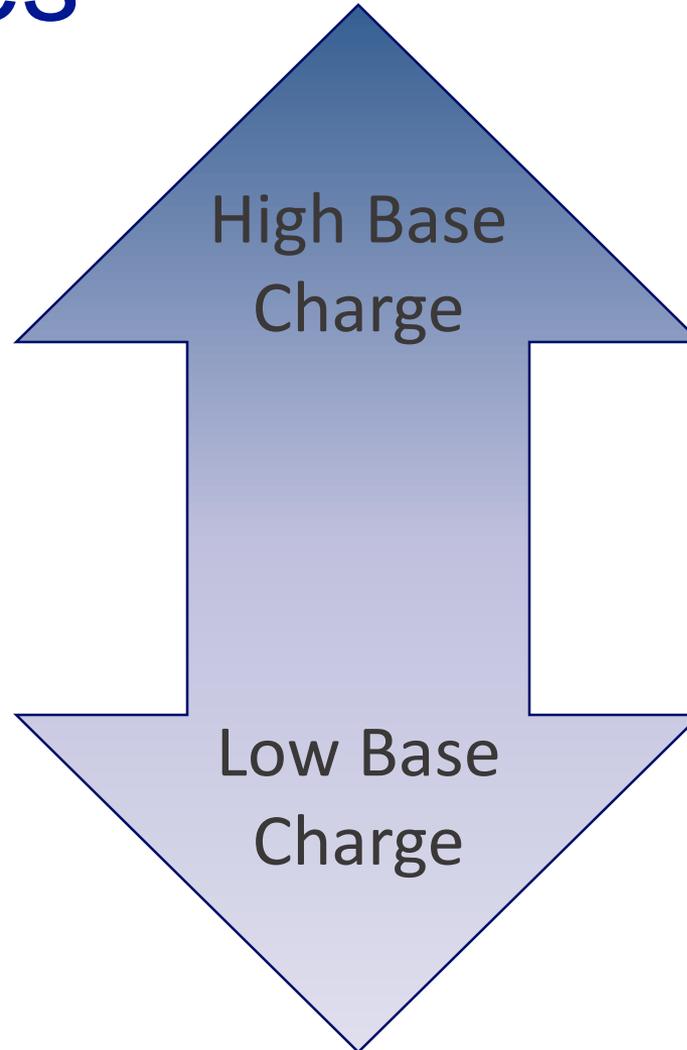
Billing Period



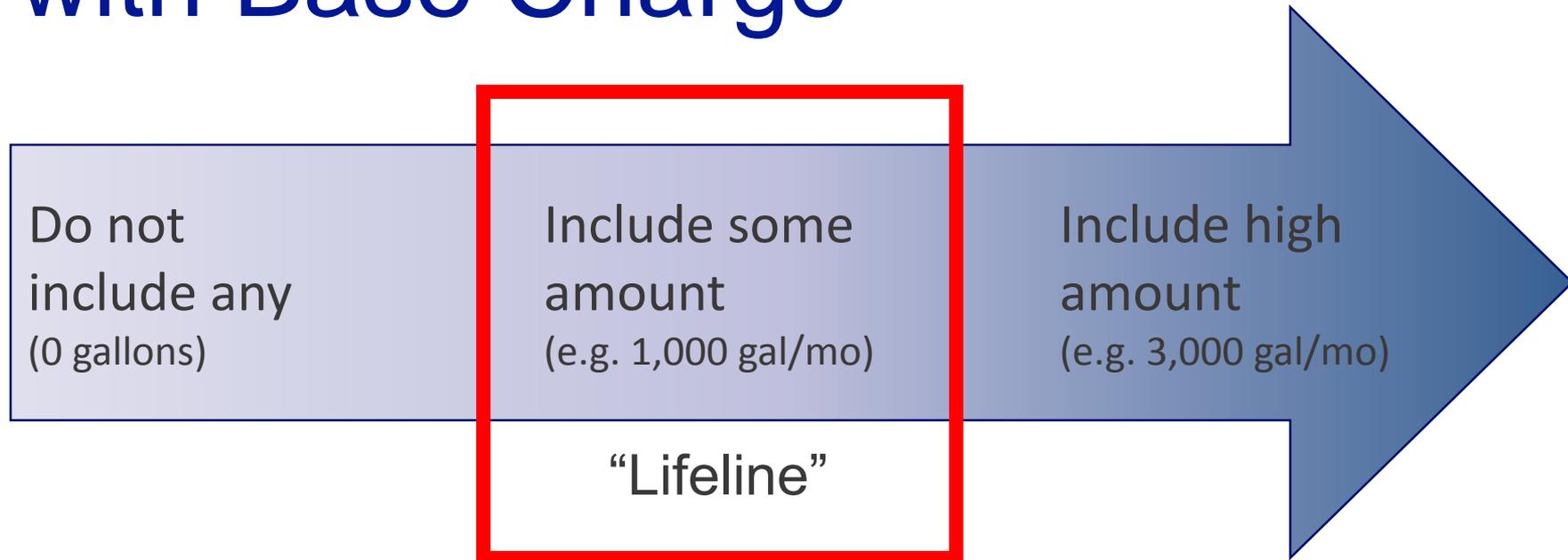
Suggestion: Use a monthly billing period if you can afford it

Base Charges

*Suggestion:
Smaller utilities
should lean
towards higher
base charges*



Consumption Allowance with Base Charge



Suggestion: For systems with low base charges, do not include any consumption allowance. For systems with high base charges but wish to encourage conservation, keep consumption allowance low, if any.



Northampton County, NC

USER FEE / Residential	\$19.50
RATE PER THOUSAND/GALLONS 0,001-10,000	\$5.00
RATE PER THOUSAND/GALLONS 10,001-25,000	\$5.50
RATE PER THOUSAND/GALLONS 25,001-50,000	\$6.00
RATE PER THOUSAND/GALLONS 50,001-100,000	\$6.50
RATE PER THOUSAND/GALLONS 100,000>	\$7.00

USER FEE / Commercial	\$25.50
RATE PER THOUSAND/GALLONS 0,001-10,000	\$6.00
RATE PER THOUSAND/GALLONS 10,001-25,000	\$7.00
RATE PER THOUSAND/GALLONS 25,001-50,000	\$7.50
RATE PER THOUSAND/GALLONS 50,001-100,000	\$8.50



City of Nashville, NC

Water - In Town

1st 1,000 gal.	\$ 5.74
Each Additional	\$ 4.18



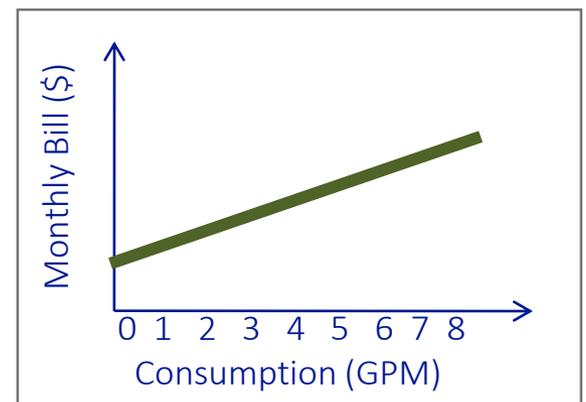
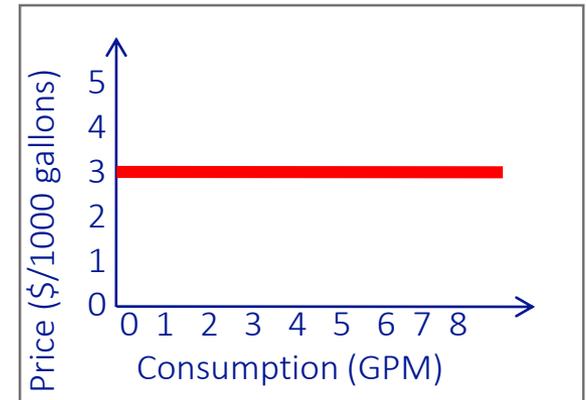
Town of Montrose, GA

ACCOUNT TYPE	RATE	GALLONS
RESIDENTIAL	\$20.00	10,000
COMMERCIAL	\$30.00	15,000
INDUSTRIAL	\$40.00	20,000
AGENT/SELLER	\$50.00	2,500

Volumetric Rate Structure

Uniform (“Flat”) Rates

- Fair and simple





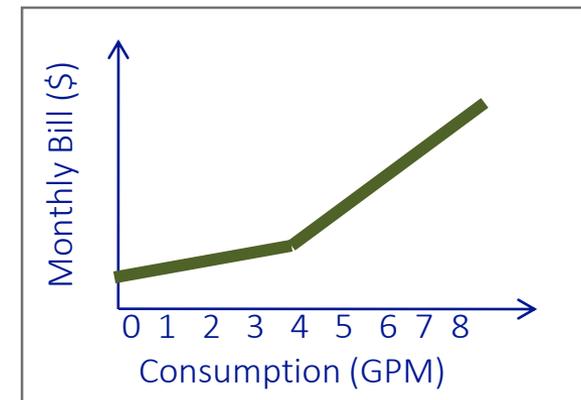
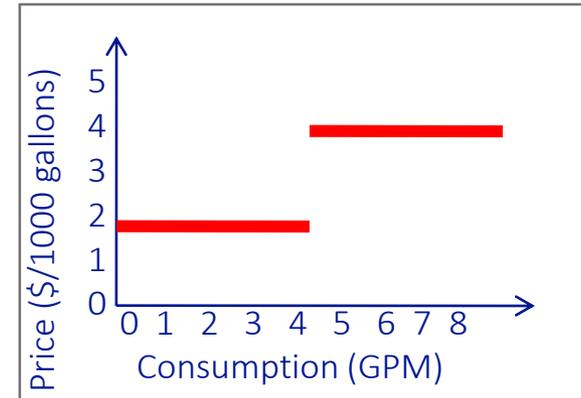
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Volumetric Rate Structure

Increasing Block Rates

- Conservation-oriented
- Consider large families





City of Stockbridge, GA

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Hydrant Meter

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Napu'u Water, HI

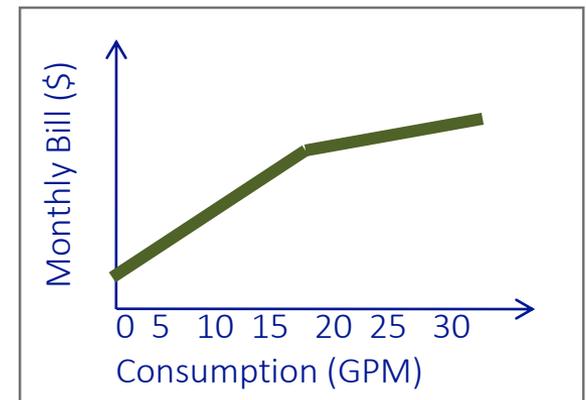
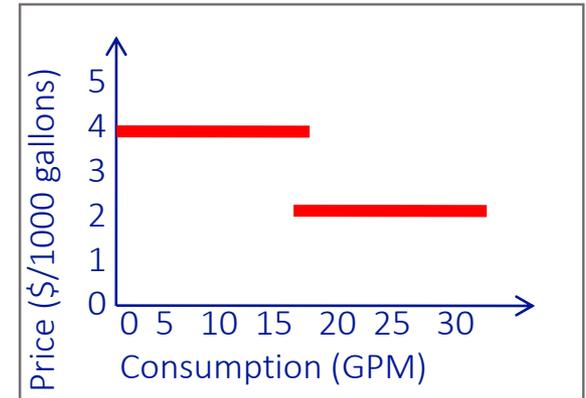
Rate per 1,000 gallons - Tiered

Tier	Water Usage	Rate per 1,000 gallons (\$)
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

Volumetric Rate Structure

Decreasing Block Rates

- Provide price break for large users (e.g.: commercial)
- Do not use for residential





Town of Ardmore, AL

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



Town of Double Springs, AL

Commercial Water Rate Table

Minimum	10,000 gals.	\$143.25
Next	10,000 gals.	\$ 7.10 per 1,000 gals.
Next	10,000 gals.	\$ 6.00 per 1,000 gals.
Next	20,000 gals.	\$ 5.50 per 1,000 gals.
Next	99,999,999 gals.	\$ 5.00 per 1,000 gals.



Town of Lancaster, NH

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



(If Applicable) Block Designs

For block rate structures to be effective:

- Decide on the correct number of blocks
- Decide on where the blocks should end/start
- Set significant rate differentials between blocks



(If Applicable) Block Designs

For block rate structures to be effective:

- Keep in mind your base charge and consumption allowance
- Meter reading must be punctual, and meters must be replaced frequently
- Think about large families

Too Many Blocks!

fixed 1000	Per 1000 gal.	water	Per 1000 gal.	sewer	combined
	increase	11.66	increase	13.10	24.76
2000	2.43	14.09	3.67	16.77	30.86
3000	4.62	18.71	7.06	23.83	42.54
4000	5.38	24.09	7.35	31.18	55.27
5000	5.50	29.59	7.68	38.86	68.45
6000	5.75	35.34	7.82	46.68	82.02
7000	5.93	41.27	8.00	54.68	95.95
8000	6.12	47.39	8.20	62.88	110.27
9000	6.31	53.70	8.37	71.25	124.95
10000	6.31	60.01	8.37	79.62	139.63
11000	6.31	66.32	8.37	87.99	154.31
12000	6.31	72.63	8.37	96.36	168.99
13000	6.31	78.94	8.37	104.73	183.67
14000	6.31	85.25	8.37	113.10	198.35
15000	6.31	91.56	8.37	121.47	213.03
15001-99999999	6.51	98.07	8.56	130.03	228.10



Frequency of Rate Changes

- Always review your rates annually (recommended)
- Review your financial health indicators annually, and then review your rates if any of the indicators reflect poor financing
- Raise rates each year automatically based on inflation



Village of Richmond, IL

SECTION 3.27 ANNUAL INCREASE OF RATES AND FEES

The following fees: Water and Sewer Service, Building Permit Fees, School Impact Fees, Fire Prevention and Life Safety Donations and Municipal Impact Fees as set forth by Village ordinance are subject to an annual increase to be applied by the Village Treasurer by May 1 of each year using the following prescribed formula:

The above rates and Fees will be increased by the amount of the percentage increase of the Consumer Price Index (hereinafter defined) for the previous calendar year. Consumer Price Index ("CPI") means the U.S. City Averages for all Urban Consumers, All Items, (1982-1984=100) of the United States Bureau of Labor Statistics. The CPI for any calendar year shall be determined by averaging the monthly indices for that year. If the Bureau of Labor Statistics substantially revises the manner in which the CPI is determined, an adjustment shall be made in the revised index which would produce results equivalent, as nearly as possible, to those which would be obtained if the CPI had not been so revised. If the 1982-1984 average shall no longer be used as an index of 100, such change shall constitute a substantial revision. If the CPI becomes unavailable to the public because publication is discontinued or otherwise, the Village shall substitute therefore a comparable index based upon changes in the cost of living or purchasing power of the consumer dollar published by any other governmental agency or, if no such index is available, then a comparable index published by a major bank, other financial



Frequency of Rate Changes

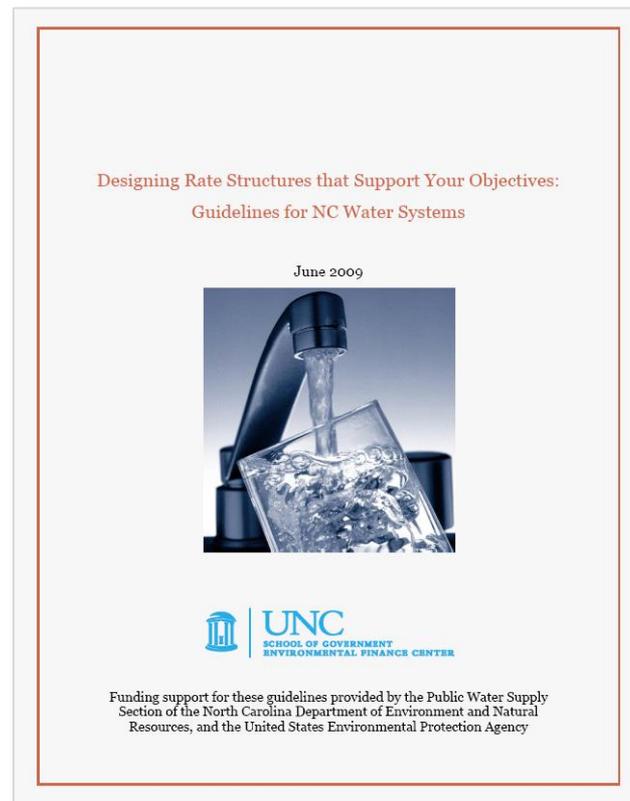
- *Important: Avoid maintaining low rates at the expense of your utility's financial health. It will either lead to a sudden, massive rate increase in the future or to failing systems and endangering public health.*

Designing Rate Structures That Support Your Objectives

Free guide
written for
system
managers

Available at:

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





Before we go...

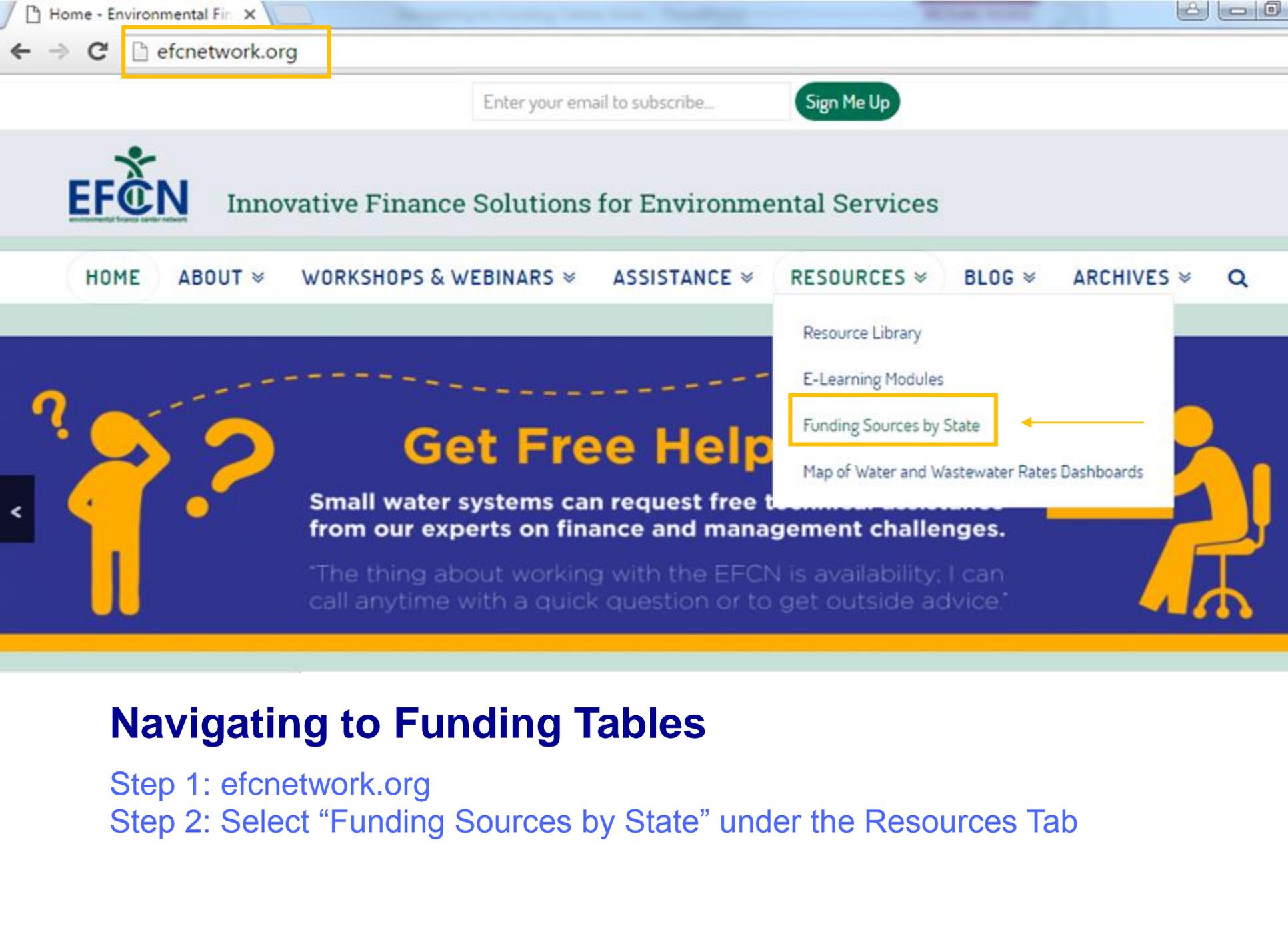
http://efcnetwork.org/small_systems_blog/

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.”



The screenshot shows the EFCN website header with a search bar and a "Sign Me Up" button. The EFCN logo is followed by the tagline "Innovative Finance Solutions for Environmental". The navigation menu includes "HOME", "ABOUT", "WORKSHOPS & WEBINARS", "ASSISTANCE", and "RESOU". A breadcrumb trail shows "BLOG". The main content area is titled "Blog" and features three articles:

- Magdalena, New Mexico: A Success Story from the Smart Management for Small Water**
Written by: Allison Perch Allison Perch is a Program Coordinator with the Environmental Finance Center. The financial health of its water system is at risk? This is the question that Stephanie Finch, the town clerk
- The Virtuous Cycle: Internal Energy Revolving Funds for Small Water Systems**
Written by: David Tucker David Tucker is a Project Director with the Environmental Finance Center at pay for energy efficiency and renewable energy, helping cut utility costs? As energy is often the large
- Smart Management for Small Water Systems Program Newsletter | Fall 2015**
View Full Issue The Environmental Finance Center Network has published the third issue in a series



Navigating to Funding Tables

Step 1: efcnetwork.org

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

Funding Sources by State

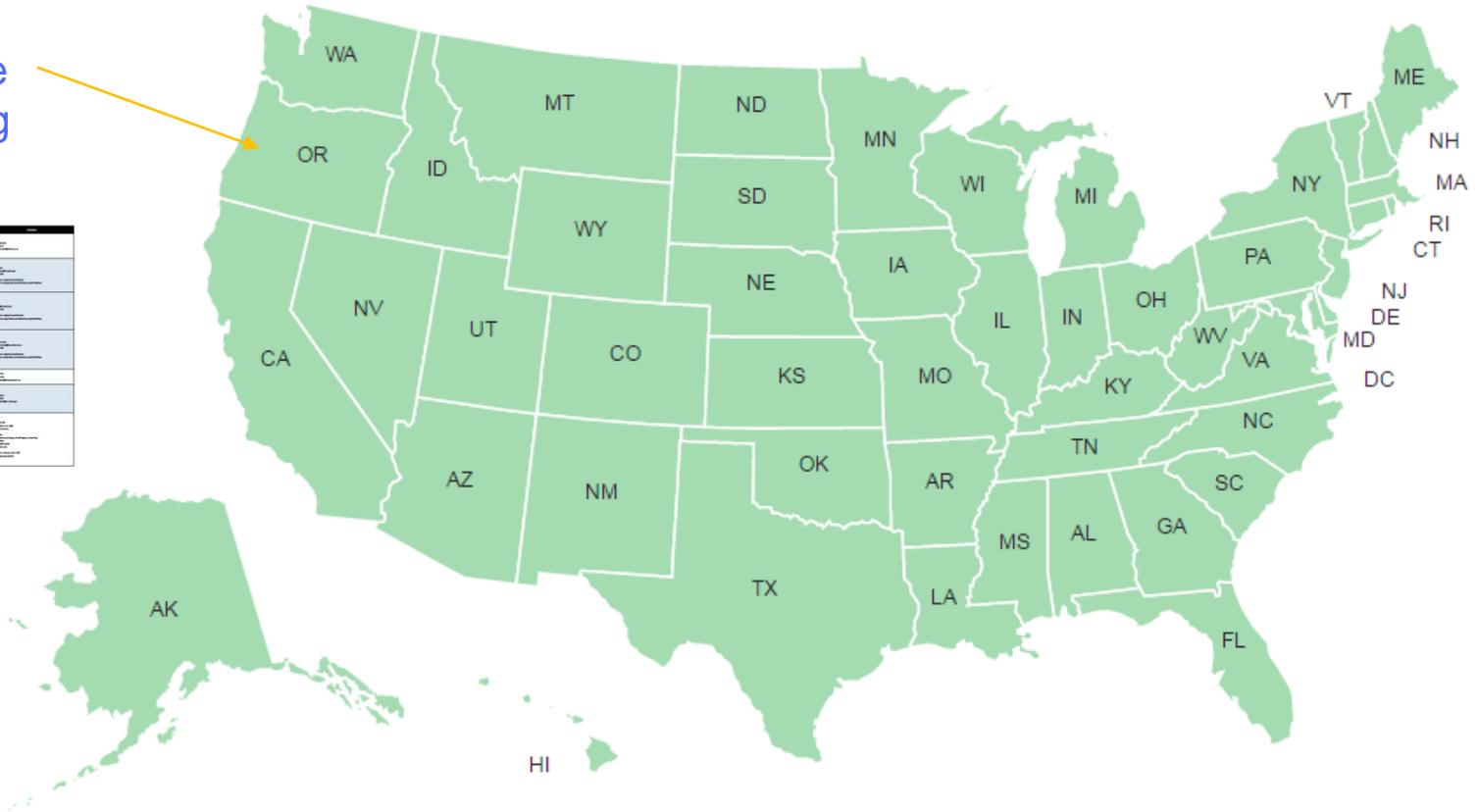
Note: Some states may have additional resources listed below the map.

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

Click on an individual state to view funding table.



State	Funding Source	Link
AK
AL
AR
AZ
CA
CO
CT
DC
DE
FL
GA
IA
IL
IN
KS
KY
LA
MA
MD
ME
MI
MN
MO
MS
MT
NC
ND
NH
NJ
NM
NV
NY
OH
OK
OR
PA
RI
SC
SD
TN
TX
UT
VA
VT
WA
WI
WV
WY





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



Thank you!

Glenn Barnes

Environmental Finance Center

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