



Smart Management for  
Small Water Systems

# Rates and the Importance of Reserves for Your Water System

September 28, 2017 | Great Falls, MT

Montana League of Cities and Towns Annual Conference

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



UNC  
ENVIRONMENTAL  
FINANCE CENTER



American Water Works  
Association

This presentation is made possible under a cooperative agreement with the U.S. EPA.



## **About the Environmental Finance Center Network (EFCN)**

The Environmental Finance Center Network (EFCN) is a university-based organization creating innovative solutions to the difficult how-to-pay issues of environmental protection and improvement. The EFCN works with the public and private sectors to promote sustainable environmental solutions while bolstering efforts to manage costs.

## **The Smart Management for Small Water Systems Program**

This program is offered free of charge to all who are interested. The Program Team will conduct activities in every state, territory, and the Navajo Nation. All small drinking water systems are eligible to receive free training and technical assistance.

## **What We Offer**

Individualized technical assistance, workshops, small group support, webinars, eLearning, online tools & resources, blogs.



# The Small Systems Program Team

- Environmental Finance Center at The University of North Carolina at Chapel Hill
- Environmental Finance Center at Wichita State University
- EFC West
- New England Environmental Finance Center at the University of Southern Maine
- Southwest Environmental Finance Center at the University of New Mexico
- Syracuse University Environmental Finance Center
- Environmental Finance Center at the University of Maryland
- American Water Works Association (AWWA)



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SOUTHWEST  
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Environmental  
Finance  
Center  
*Syracuse University*



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Association

# Areas of Expertise



Asset Management



Rate Setting and Fiscal Planning



Leadership Through Decision-making and Communication



Water Loss Reduction



Energy Management Planning



Accessing Infrastructure Financing Programs



Workforce Development



Water Conservation Finance and Management



Collaborating with Other Water Systems



Resiliency Planning



Managing Drought



# Two Sessions Today

Rates and the Importance of Reserves

1:30pm – 2:30pm, Britain Room

Capital Planning and the Drinking Water SRF

4:45pm – 5:30pm, Britain Room



# Outline

- The basic financial model for most water systems
- Rate setting objectives and rate structure design
- Reserves



# Enterprise Fund

Governmental water systems are typically managed as **enterprise funds**.

An enterprise fund is a self-sustaining fund, where the revenues and expenses for that business unit are not commingled with others from other governmental activities.



# Characteristics of Water System Enterprises

- Capital intensive
- Diverse use charges, fees and pricing strategies
- Financial structure varies from operational structure
- Self-regulated monopolies
- Impacts public health and environmental protection



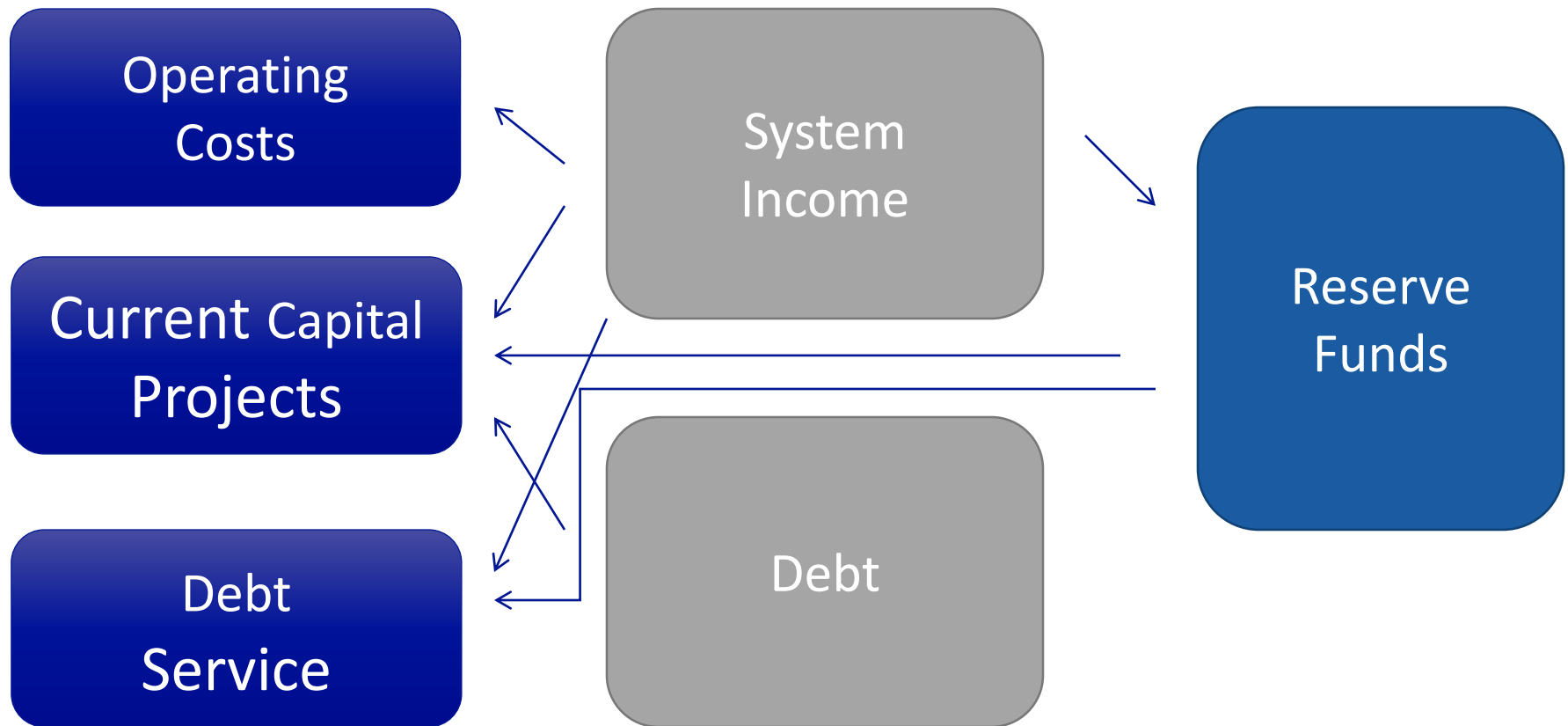


# Guiding Principle for Enterprise Funds

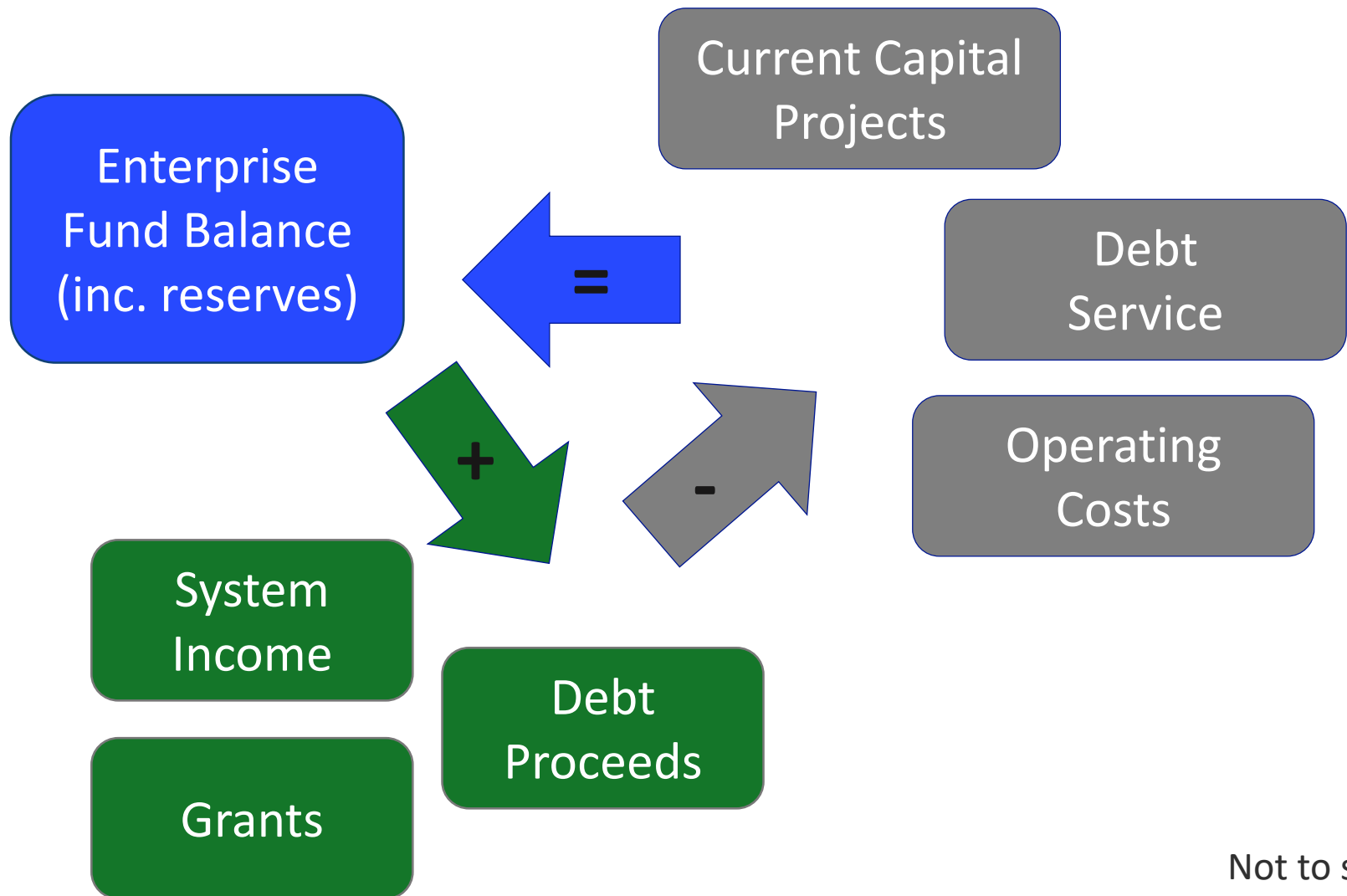
## Self-sufficiency

Revenues collected = Costs expended  
(in a given year or over time)

# Water System Finance Diagram



# Water System Finance Diagram



Not to scale



# Three Types of Costs

- Operating Costs — what you need to run the system day in and day out
- Debt Service — what you owe on loans and bonds
- Capital Costs — rehabilitation and replacement of existing infrastructure and new infrastructure



# Understanding Operating Costs

- What you need to run your business day in and day out
- What are your operating cost categories?
  - Personnel
  - Water bulk purchases
  - Chemicals
  - Office equipment
  - Energy
  - Supplies
  - Lab tests
  - Etc.



# Understanding Capital Costs

- The “big stuff”
- Rehabilitation & replacement of existing infrastructure
- New infrastructure as needed to serve your customers



# Understanding Debt Service

- What you owe on loans and bonds, paid back on a regular schedule



# Three Types of Revenues

- **System Income** — Money from rates, tap fees, impact fees, assessments, penalties, periodic charges, grants, other sources
  - Note: To be a true enterprise fund, not taxes or transfers from the General Fund.
- **Debt Proceeds** — Money from bonds and loans
- **Grants** — Highly competitive and limited





# System Income

For most water systems, revenue from **rates** account for ~80-90% of total revenues (often more).



# Trivia

How much revenue did local governments in Montana collect in FY2015 from water systems (excluding wastewater)?

**\$128 million**

Source: U.S. Census Bureau's "State and Local Government Finances by Level of Government and by State: 2014-15"

This is a little less than \$19/month for each person served by a local government community water system  
(with lots of assumptions)

# How to Tell if Revenues > Expenditures?

Look at the (past few)  
audited annual financial  
statements.

Did **Total Operating  
Revenues** exceed **Total  
Operating Expenses**  
(with or without  
depreciation)?

BAYARIA	
STATEMENT OF NET ASSETS	
PROPRIETARY FUND	
JUNE 30, 2011	
Assets	
Current Assets:	
Cash - operating	\$ 368,061
Accounts Receivable (Net)	60,346
Prepaid Insurance	5,856
Total Current Assets	440,563
Noncurrent Assets:	
Restricted cash	177,208
Capital assets	
Land	209,556
Buildings	22,982
Improvements other than buildings	5,873,769
Machinery and equipment	896,073
Construction in progress	1,454,079
Less: Accumulated depreciation	(2,883,225)
Deferred Charge	39,833
Total noncurrent assets	5,781,214
Total Assets	6,421,878
Liabilities	
Current Liabilities:	
Accounts Payable	21,090
Accrued Expenses	2,767
Due to Other Funds	8,176
Customer Deposits	62,625
Deferred Subsidy Revenue	440,005
Current Portion of Long Term Debt	343,811
Total Current Liabilities	879,474
Noncurrent Liabilities:	
Compensated Absences	15,605
Revenue Bonds (Net of current portion)	235,357
Notes Payable (Net of current portion)	646,824
Total Noncurrent Liabilities	897,786
Total Liabilities	1,788,399
Fund Net assets	
Invested in capital assets, net of related debt	4,355,133
Restricted for debt service	114,583
Unrestricted	167,361
Total fund net assets	\$ 4,637,077



# How did Montana do?

In 2015, Montana local governments spent \$148 million on their water systems, which exceeds the \$128 million in revenue.

There may be good explanations for this that are not apparent from the Census Bureau survey.

Source: U.S. Census Bureau's "State and Local Government Finances by Level of Government and by State: 2014-15"



# Rate Setting

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

# Ideal Pricing

- Prices cover full costs of service
- Prices send and reinforce strategic messages
- Prices follow State's laws and policies
- Beneficiaries pay for their benefits and polluters pay for their pollution
- Ability to pay is recognized and addressed
- Simple



# How Much Does “Full Cost Pricing” Cover?

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



# Cost-of-Service Pricing

Proportionally allocates costs of service to different customer groups, and prices rates to generate an equitable share of revenues from each customer group.

See AWWA's M1 Manual for details.



# A Simpler Version



## Setting Small Drinking Water System Rates for a Sustainable Future

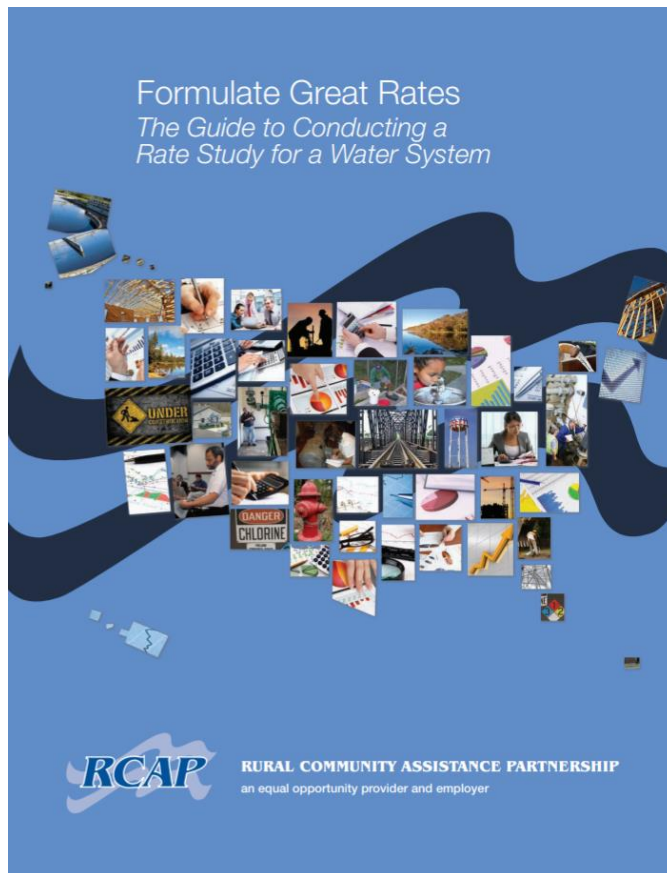
One of the Simple Tools for Effective Performance (STEP) Guide Series



- Determining Costs
- Determining Current Revenues
- Setting Aside a Reserve
- Determining Revenues Required
- Designing Rate to Cover Costs
- Implementing the Rate
- Reviewing the Rate

<https://www.epa.gov/dwcapacity/resources-setting-small-system-water-rates-0>

# Another Version by RCAP



- When to review rates
- Spreading rate increases over customers
- Setting final base and flow rates
- Adjusting rates

With worksheets.

<http://www.map-inc.org/uploads/5/2/2/1/52214049/formulate-great-rates.pdf> or on the W2ASACT website.


# Water & Wastewater Rates Analysis Model

<http://efc.sog.unc.edu> or <http://efcnetwork.org>




Find the most up-to-date version in Resources / Tools

Free, simplified Excel tool allowing you to model and compare two rate structures on your projected fund balance

**Water & Wastewater Rates Analysis Model**  
Version 2.8.2 (last updated August 4, 2015)

 **UNC**  
ENVIRONMENTAL FINANCE CENTER

Developed by the Environmental Finance Center at the University of North Carolina, Chapel Hill  
<http://efc.sog.unc.edu>

Funded by the U.S. Environmental Protection Agency and the Public Water Supply Section of the North Carolina Department of Environment and Natural Resources

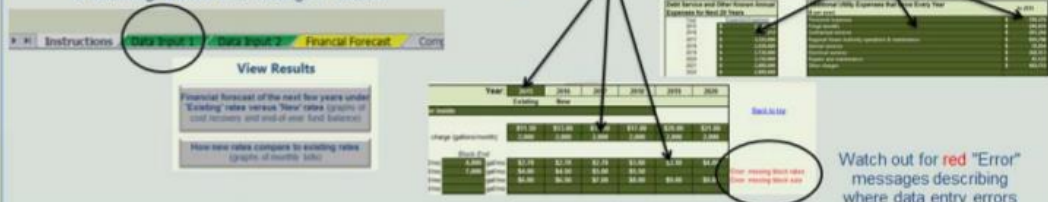
**DESCRIPTION**  
A do-it-yourself, simplified financial model to assist utility managers and private system owners in setting water and wastewater rates.

**FEATURES**  
Comparisons of annual fund balance projections (for up to 20 years) under proposed new rates vs. staying with existing rates  
Adjust rates for the next 1-5 years  
Up to 12 rate structures  
Uniform or block rates (up to 10 blocks)  
Model changes to accounts and water use  
Customizable list of operating and capital expenses  
Building up reserves through rates  
Compare monthly bills under new rates vs. existing rates  
Assess revenue sufficiency and fund balance  
Error notifications

**INSTRUCTIONS**

1) Navigate: using worksheet tabs at bottom of screen or following arrows and clicking on buttons

2) In the green "Data Input" worksheets, input data in the dark green cells



Watch out for red "Error" messages describing where data entry errors



# Revenue Generation Isn't the Only Objective

Will our rates provide sufficient cost recovery?

Are we following the applicable laws?

Are we allocating the costs to the right customers?

Will our customers understand these rates?



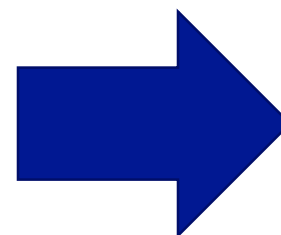
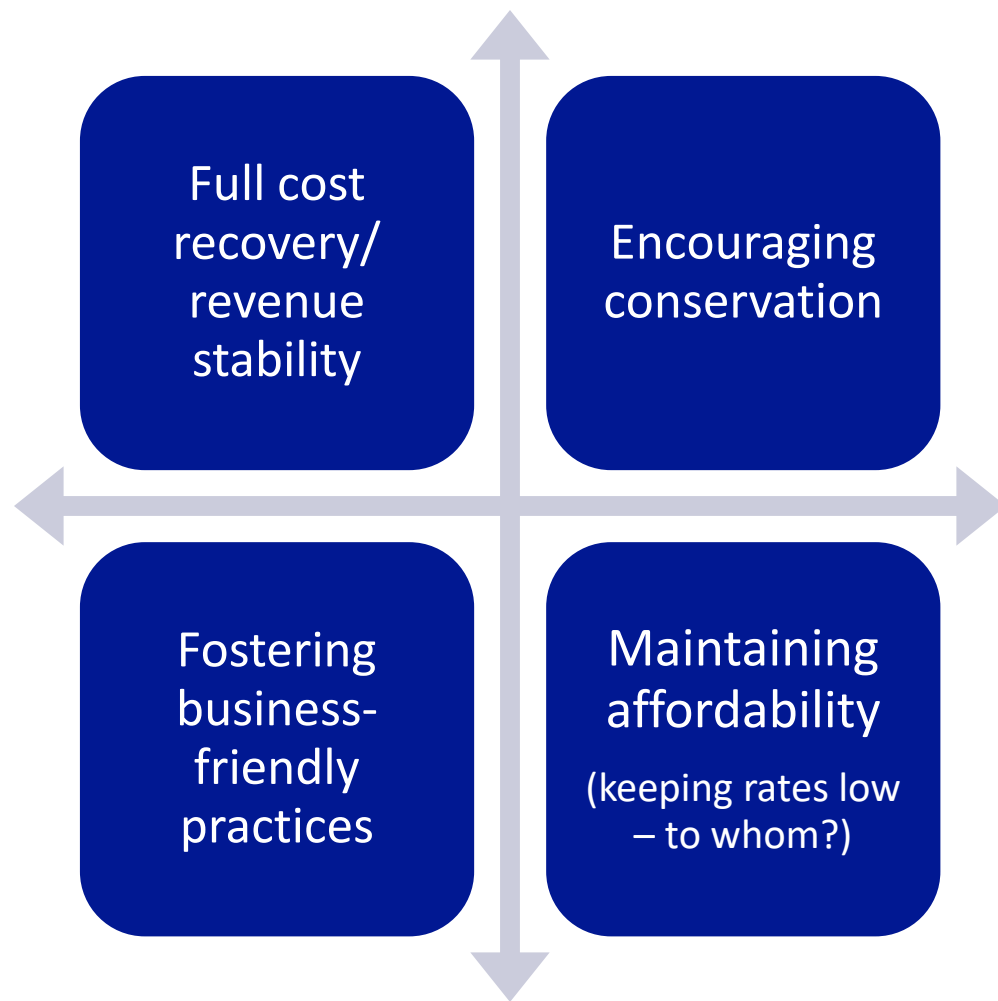
Will revenues be resilient to changing water demands?

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

Will our customers be able to pay these rates?



# Rank Your Rate Setting Objectives



1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

Refer to this list and focus on the highest ranked objectives when following the guidelines for selecting the appropriate rate structure design.

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

# Elements of Rate Structure Designs

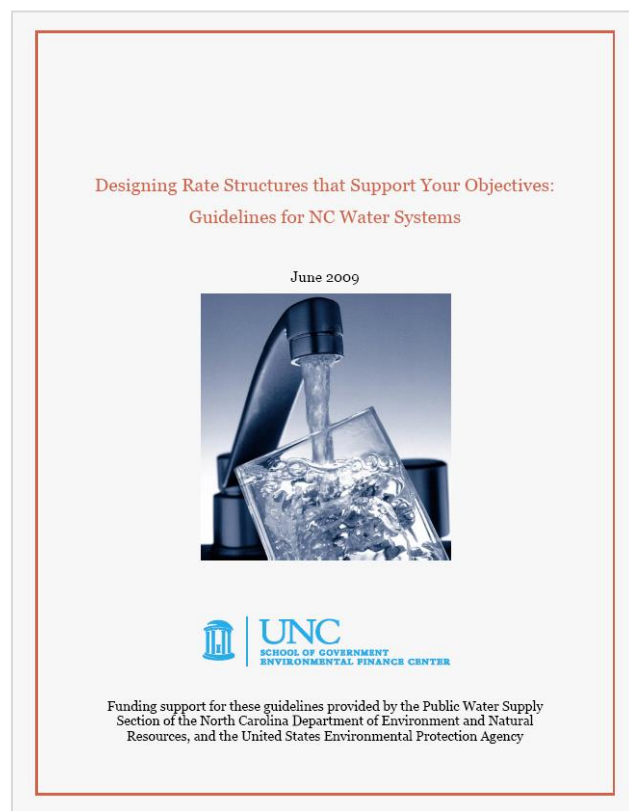
1. Customer classes/distinction
2. Billing period
3. Base charge
4. Consumption allowance included with base charge
5. Volumetric rate structure
6. (If applicable) Number of blocks, block sizes and rate differentials
7. (Optional) Drought Rates

# Designing Rate Structures That Support Your Objectives

Free guide  
written for  
system  
managers

Available at:

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





# Typical Rate Structure

Fixed Base Charge (Minimum Charge)

with or without a consumption allowance

+

Variable Volumetric Charge (determined by the  
water volume billed)

Can be structured in many ways





# **Example: City of Great Falls' water rates for regular residential customers (June 2017)**

**\$7.56/month**

Based on meter size.

Does not include consumption allowance.

+

**+\$1.47/ccf between 1-300 cubic feet**

**+\$2.46/ccf for above 300 cubic feet**

Increasing block rates.

Source: City of Great Falls' website: <https://greatfallsmt.net/fiscalservices/2016-water-sewer-and-storm-drain-service-rates>



# Methods to Budget for Capital Costs

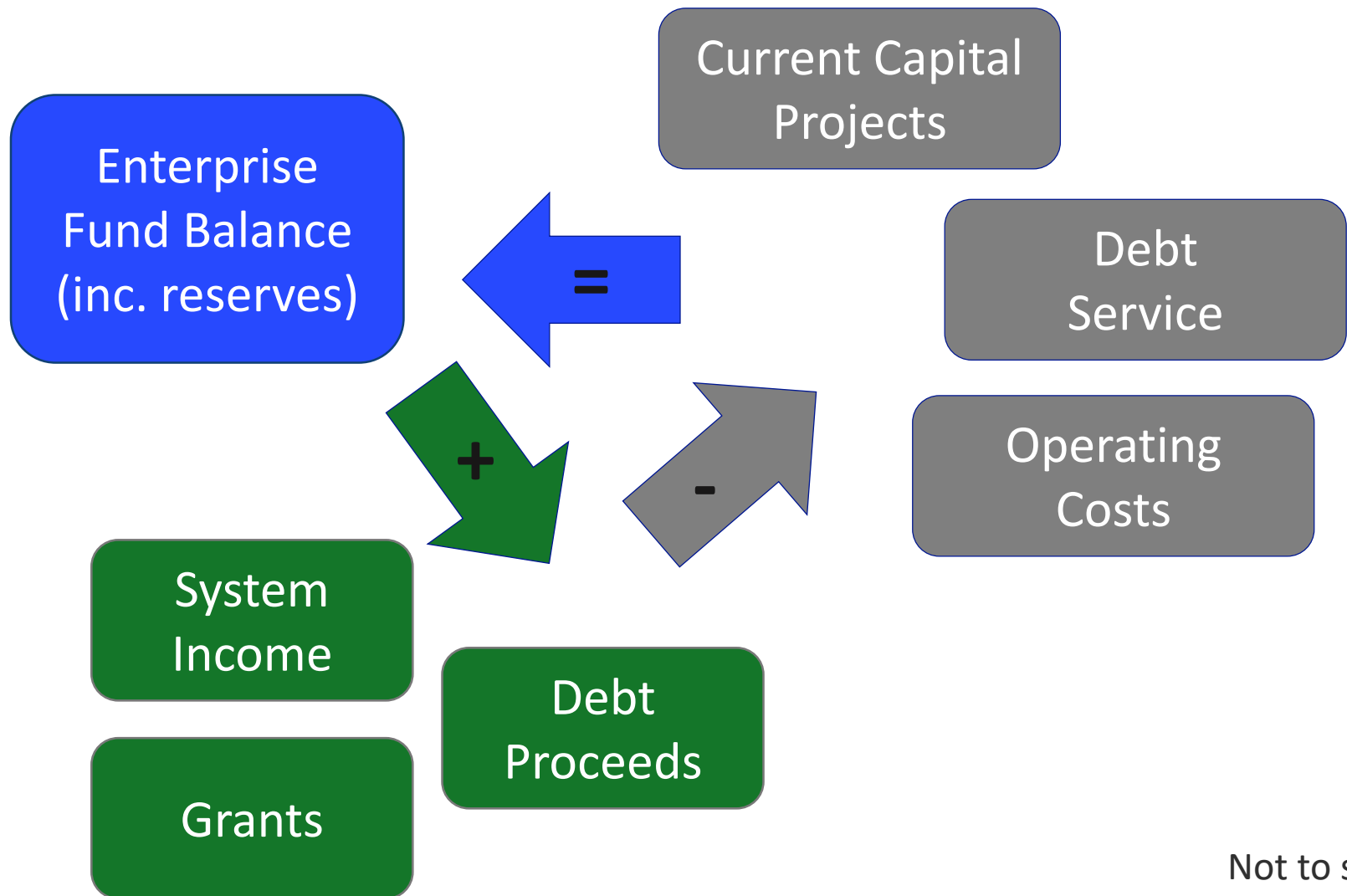
- Create and maintain a Capital Improvement Plan
- “Fund” your depreciation, with a little extra
- Estimate from past expenses, but adjust for the future

Do NOT ignore capital costs and only budget for O&M. Every utility has capital costs.



# Reserves

# Water System Finance Diagram



Not to scale



# Reserve Account(s)

- If revenues exceed costs, the extra money can go into one or more reserve account(s) specifically for the water system
- Can set up specific reserves for narrower purposes (designated reserves)
- Examples: unrestricted, rate stabilization, rainy day, capital reserve, etc.
- If you include depreciation as a cost, this is where that money would go



# Many Types of Reserve Funds

- **Capital Reserve Fund** — Infrastructure rehabilitation and replacement
- **Repair Fund** — Known, ongoing maintenance issues
- **Emergency Fund** — Unknown, unanticipated maintenance issues
- **Rainy Day Fund** — Unexpected revenue shortfalls

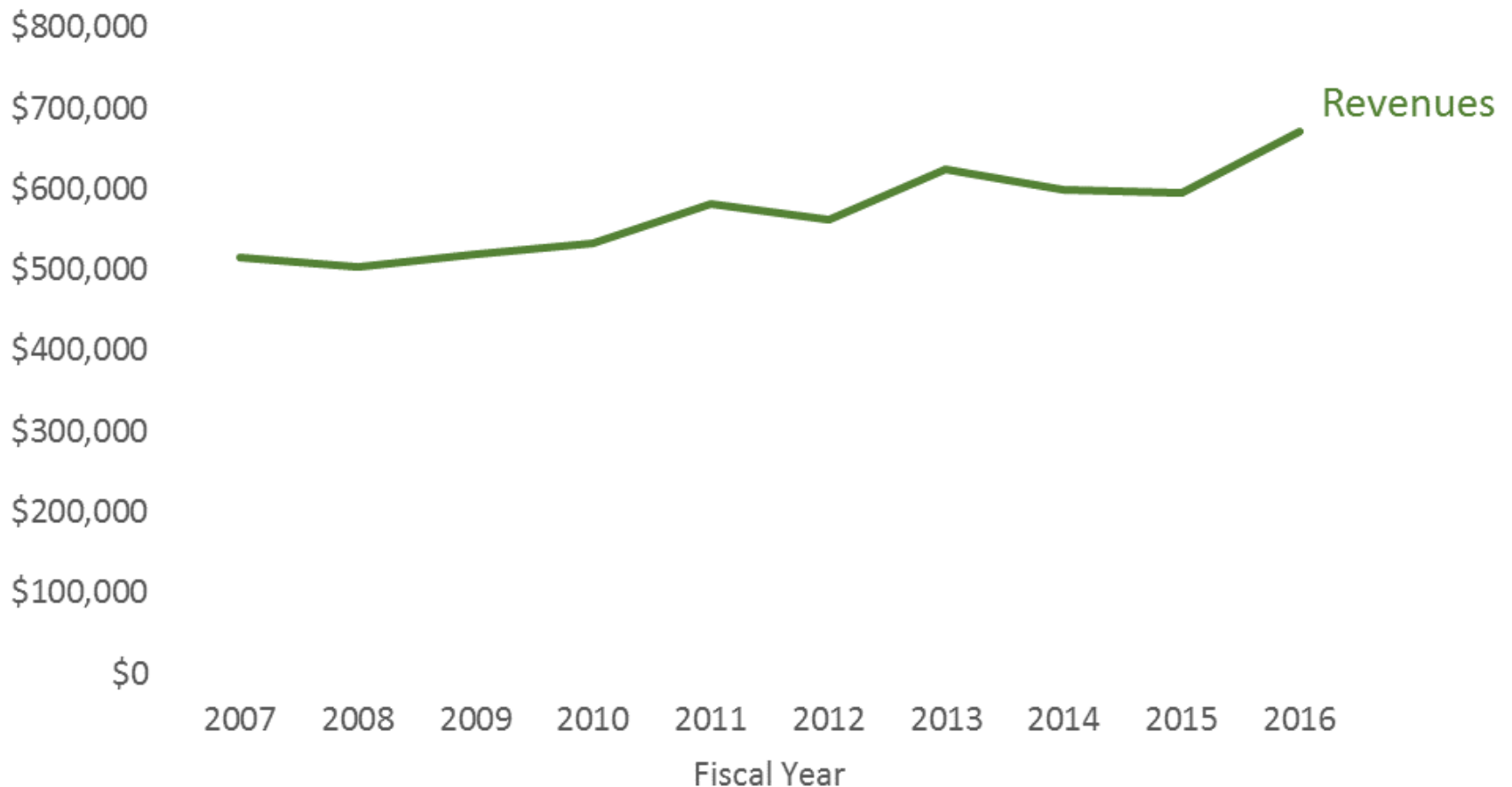


# Budgeting for the Future

- Capital rehab or replacement
- System expansion
- Costs always going up
- Changes to revenue, expected or not
- Think 5-10 years out

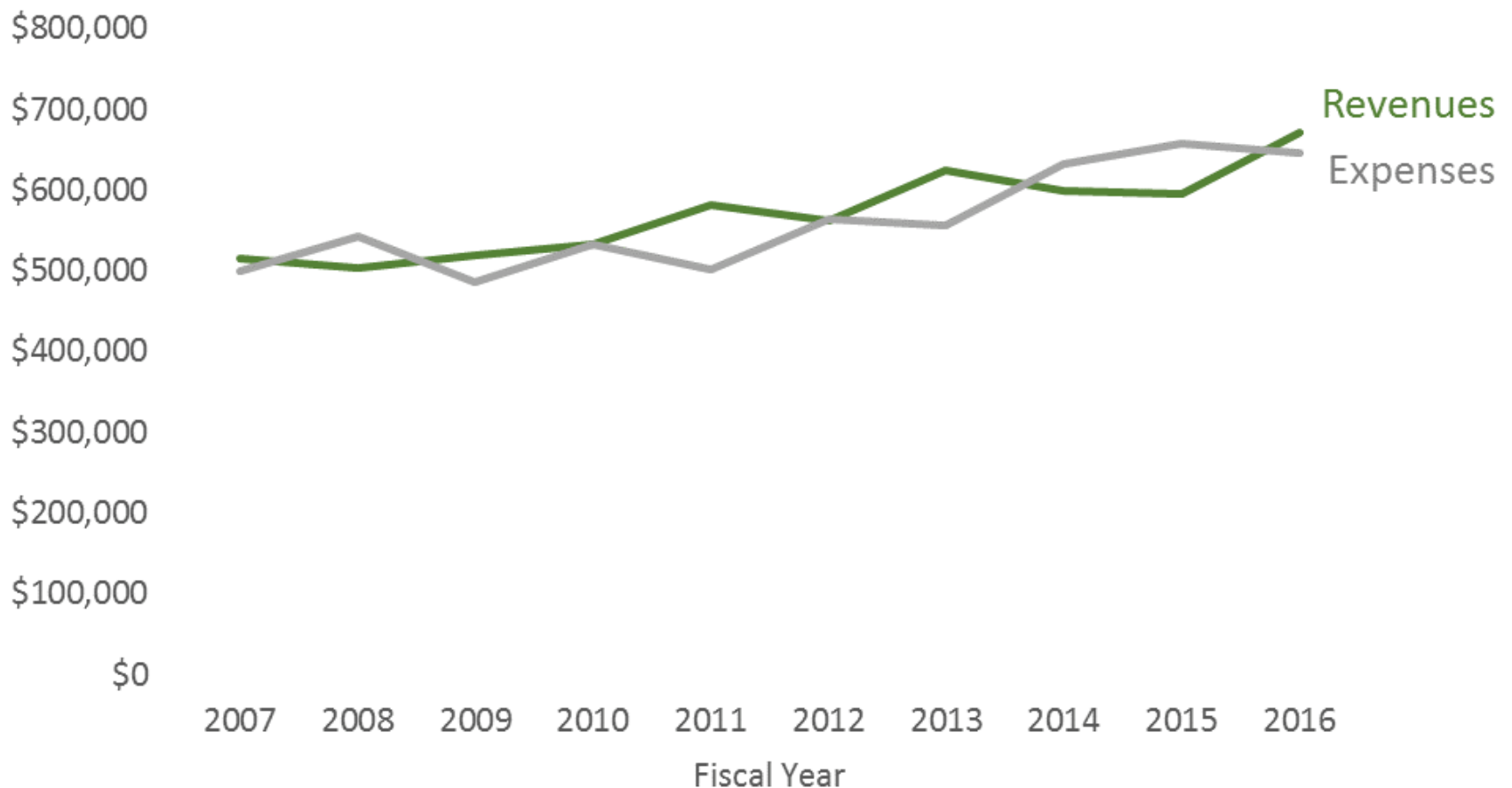


# Why is Maintaining a Reserve Important?





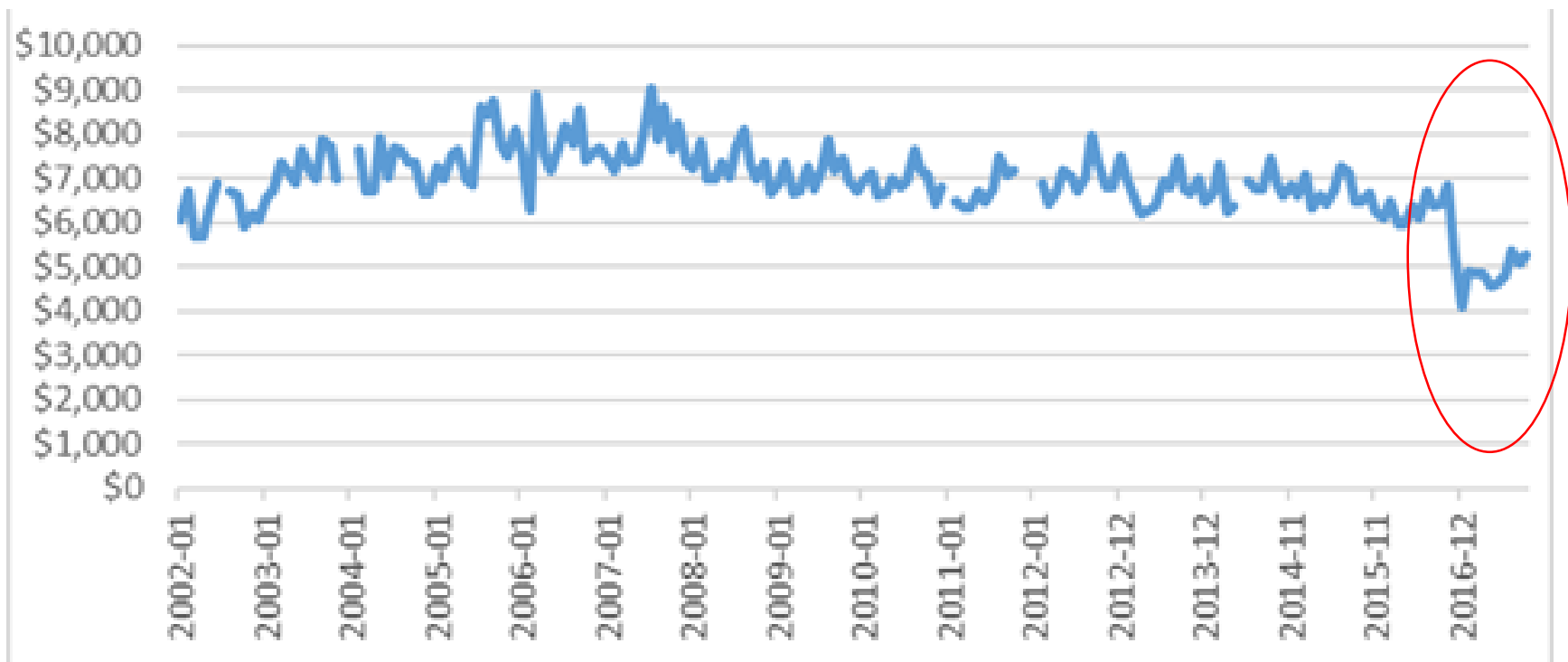
# Why is Maintaining a Reserve Important?





# Another Situation

Monthly Water Charges (Revenues)





# The Importance of Reserves

- Manage short-term cash flow
- Manage longer-term revenue fluctuations
- Smooth out rate increases
- Save for emergencies/unexpected situations
- Save for future capital expenses
- Satisfy funders' requirements
- Better credit rating / ability to borrow
- Piece of mind



# How Much Do You Need In Your Reserves?

- It depends

(see <http://efc.web.unc.edu/2013/02/12/right-sizing-reserve-funds/>)

- Enough to pay for your most expensive piece of equipment?
- Enough to cover your costs if you had no revenue for two months?
- Enough to cover the projects in your capital improvement plan?

<http://efc.web.unc.edu/2015/06/24/days-cash-on-hand/>



# Key Financial Indicators for Water and Wastewater Systems: Days of Cash on Hand

JUNE 24, 2015 / GLENN BARNES / COMMENTS OFF ON KEY FINANCIAL INDICATORS  
FOR WATER AND WASTEWATER SYSTEMS: DAYS OF CASH ON HAND

 Print  PDF

In previous posts, we outlined how to use the financial statements of a water or wastewater system to calculate the [key financial indicators](#) of [operating ratio](#) (a measure of self-sufficiency) and [debt service coverage ratio](#) (a measure of a



# Days of Cash on Hand

$$= \frac{\text{Unrestricted cash and cash equivalents}}{(\text{Operating Expenses} - \text{Depreciation}) / 365}$$

Utilities often want at least 180 days cash on hand.

Some utilities want at least 365 days (some have as high as 2 years).

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

# Transfers between General Fund and Enterprise Fund

- OK if paying for services rendered or payment in lieu of taxes (should not be recorded as a “transfer”)
- Maybe OK if loaning money that *gets paid back*
- Generally not OK if just moving money between the two funds when one falls short (i.e. subsidizing)



# Visit the EFCN Website – *[www.efcnetwork.org](http://www.efcnetwork.org)*

for more information on upcoming events, funding, and resources.



The image shows the header and a large banner for the EFCN website. The header is light blue and contains the EFCN logo (a green stylized figure above the text 'EFCN environmental finance center network') and the tagline 'Innovative Finance Solutions for Environmental Services'. Below the header is a navigation bar with links: HOME, ABOUT, WORKSHOPS & WEBINARS, ASSISTANCE, RESOURCES, BLOG, ARCHIVES, and a search icon. The main banner has a dark blue background with yellow text and graphics. On the left, a yellow stick figure stands with a question mark above its head. On the right, a yellow stick figure sits at a desk with a laptop. A dashed yellow line connects the two figures. The text in the banner reads: 'Get Free Help Now!', 'Small water systems can request free technical assistance from our experts on finance and management challenges.', and a quote: 'The thing about working with the EFCN is availability; I can call anytime with a quick question or to get outside advice.'

**EFCN**  
environmental finance center network

Innovative Finance Solutions for Environmental Services

HOME ABOUT WORKSHOPS & WEBINARS ASSISTANCE RESOURCES BLOG ARCHIVES Q

## Get Free Help Now!

Small water systems can request free technical assistance from our experts on finance and management challenges.

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# Upcoming Events Calendar

Select “Upcoming Events” under the Workshops & Webinars Tab.



## Upcoming Events









= In Person Event

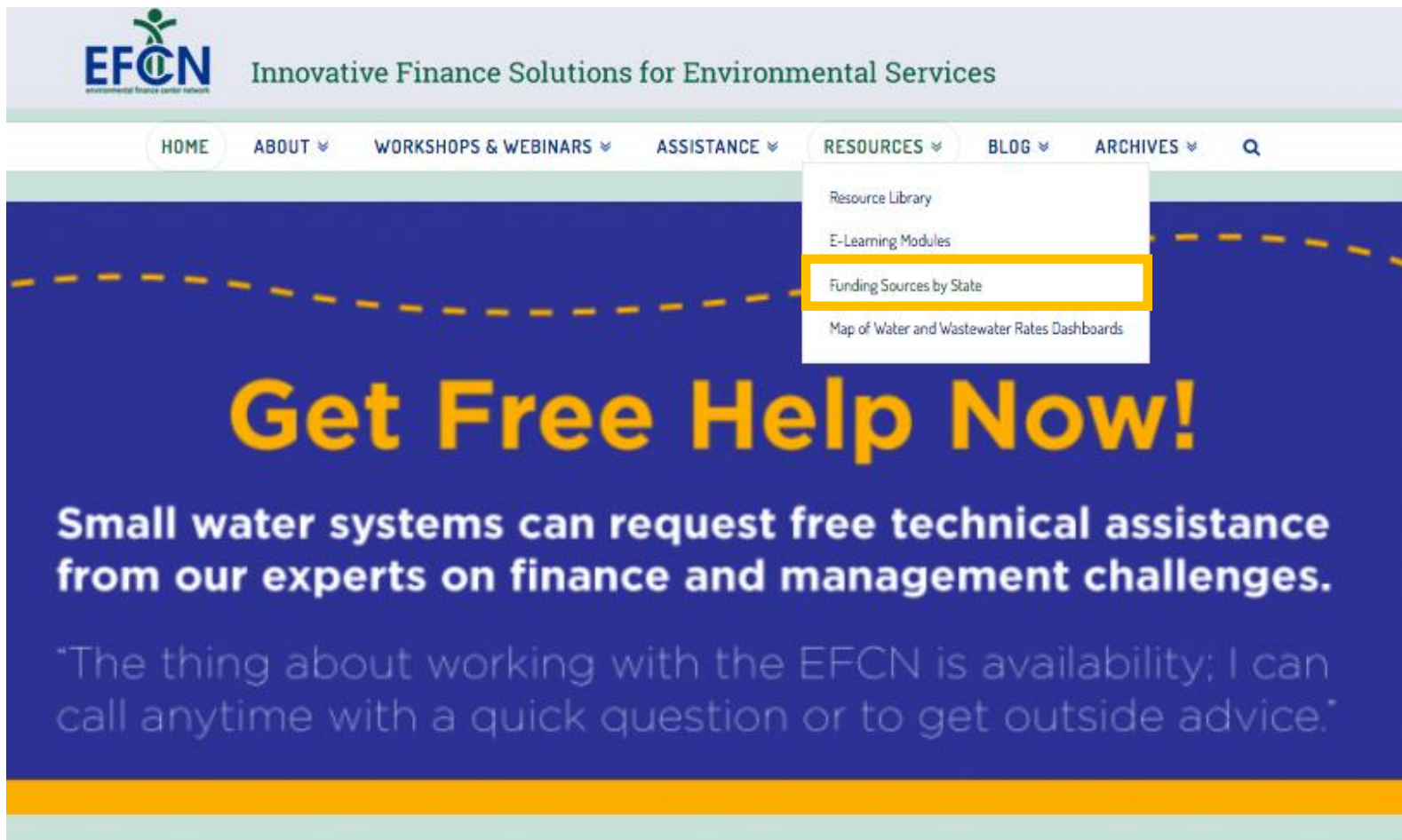


= Webinar

Type	Date/Time	Event
	03/09/2017 2:00 pm - 3:00 pm	WEBINAR   Preparing Winning Financing Applications for Water Infrastructure Projects
	03/22/2017 2:00 pm - 3:00 pm	WEBINAR   Water Audits and Water Loss Control: Entering Your Data into the Spreadsheet
	03/30/2017 9:00 am - 4:30 pm	Maryland   Rates and Finance Workshop for Small Water Systems <i>Easton Utilities, Easton MD</i>
	04/04/2017 1:00 pm - 2:00 pm	WEBINAR: Workforce Development: An Overview of Key Components
	05/11/2017 9:00 am - 4:30 pm	Virginia   Rates and Finance Workshop for Small Systems <i>The Institute for Advanced Learning and Research, Danville Virginia</i>
	05/25/2017 9:00 am - 4:30 pm	Arkansas   Rates and Finance Workshop for Small Water Systems <i>Beaver Water District, Lowell AR</i>
	09/13/2017 9:00 am - 4:30 pm	Pennsylvania   Rates and Finance Workshop for Small Water Systems <i>Pennsylvania American Water Co, New Castle PA</i>

# Funding Tables By State

Select “Funding Sources by State” under the Resources Tab.



The screenshot displays the EFCN (Environmental Finance Center Network) website. The header features the EFCN logo and the tagline "Innovative Finance Solutions for Environmental Services". The navigation bar includes links for HOME, ABOUT, WORKSHOPS & WEBINARS, ASSISTANCE, RESOURCES, BLOG, and ARCHIVES, along with a search icon. The RESOURCES dropdown menu is open, showing options: Resource Library, E-Learning Modules, Funding Sources by State (highlighted with a yellow border), and Map of Water and Wastewater Rates Dashboards. Below the navigation bar, a large blue banner with a dashed orange line contains the text "Get Free Help Now!" in large orange letters. Below this, white text states: "Small water systems can request free technical assistance from our experts on finance and management challenges." At the bottom of the banner, a quote reads: "The thing about working with the EFCN is availability; I can call anytime with a quick question or to get outside advice."

**EFCN** Innovative Finance Solutions for Environmental Services

HOME ABOUT WORKSHOPS & WEBINARS ASSISTANCE **RESOURCES** BLOG ARCHIVES

- Resource Library
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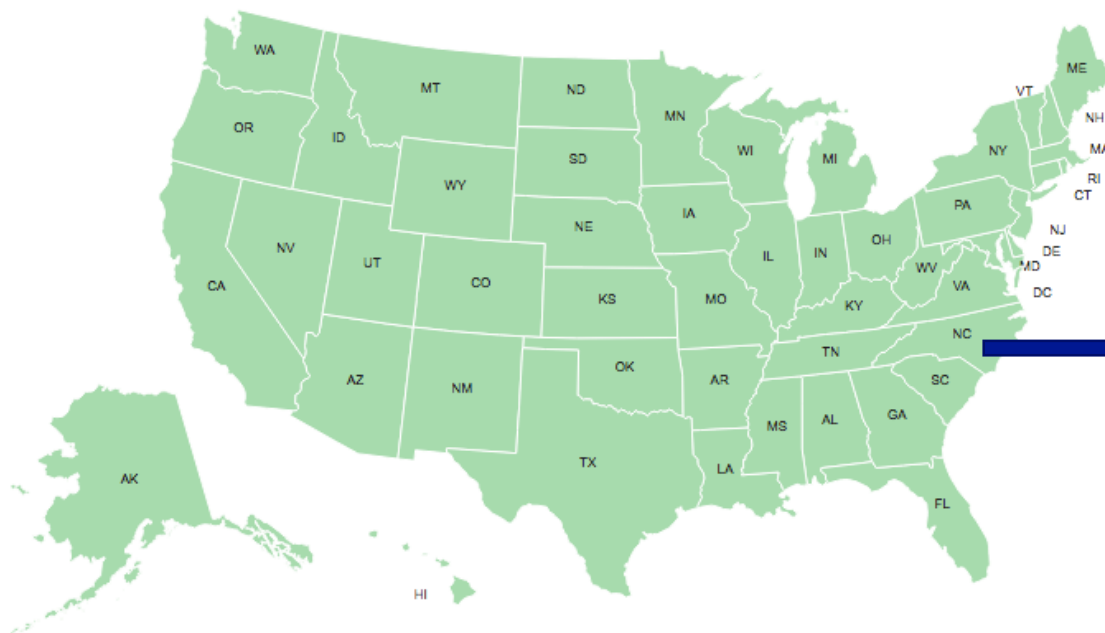
"The thing about working with the EFCN is availability; I can call anytime with a quick question or to get outside advice."



## 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.

Oregon Water and Wastewater Funding Sources (Compiled by the OWR, March 2018)					
Organization	Program (Program #)	Purpose or Use of Funds	Application Dates	Website	Contact
Oregon Health Division	Safe Drinking Water Monitoring and Lead Testing	Financially and administratively assist local health departments and water utilities in monitoring and testing for lead in drinking water. Funds are used for training, equipment, and other costs associated with lead testing.	Applications for fiscal year 2019 are currently being accepted. For more information, visit the OHR website.	<a href="https://www.ohd.org/programs/lead-testing/">https://www.ohd.org/programs/lead-testing/</a>	Lead Testing Lead Testing Lead Testing
	Sanitary Sewer Collection System Grant	Sanitary sewer collection system grants are awarded to local health departments and water utilities to assist in the construction and rehabilitation of sanitary sewer collection systems.	Applications for fiscal year 2019 are currently being accepted. For more information, visit the OHR website.	<a href="https://www.ohd.org/programs/sanitary-sewer-collection/">https://www.ohd.org/programs/sanitary-sewer-collection/</a>	Sanitary Sewer Sanitary Sewer Sanitary Sewer
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Department of Water Resources	Water Quality Monitoring and Assessment	Water quality monitoring and assessment grants are awarded to local health departments and water utilities to assist in the construction and rehabilitation of water quality monitoring and assessment systems.	Applications for fiscal year 2019 are currently being accepted. For more information, visit the OHR website.	<a href="https://www.ohd.org/programs/water-quality-monitoring/">https://www.ohd.org/programs/water-quality-monitoring/</a>	Water Quality Water Quality Water Quality
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Department of Environmental Quality	Environmental Quality Improvement	Environmental quality improvement grants are awarded to local health departments and water utilities to assist in the construction and rehabilitation of environmental quality improvement systems.	Applications for fiscal year 2019 are currently being accepted. For more information, visit the OHR website.	<a href="https://www.ohd.org/programs/environmental-quality-improvement/">https://www.ohd.org/programs/environmental-quality-improvement/</a>	Environmental Quality Environmental Quality Environmental Quality
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# Request Technical Assistance

Select “Request Assistance” under the Assistance Tab off the EFCN homepage to access and submit the TA request form electronically.




## REQUEST ASSISTANCE

A screenshot of the "Technical Assistance Request Form" page. The page has a header with a banner image and the EFCN logo. The main heading is "Technical Assistance Request Form". Below it, a paragraph states: "The EFCN offers free help on financial and managerial topics to systems serving 10,000 or fewer people. Examples of assistance we can provide include:". This is followed by a list of services: "Creating an Asset management plan", "Near-term financial planning and rate setting", "Analyzing your revenues and expenses", "Offering ideas on how to effectively budget", "Long-term capital planning", "Assessing options for lowering energy use and/or water loss", "Identifying sources of outside funding", "Collaborating with other water systems", and "Resiliency Planning". At the bottom, a paragraph says: "If you are interested in requesting assistance from our experts, please fill out the form below. You will be asked a few questions to help us understand your water system and what kind of assistance you need."

# Rates Dashboards

Select “Map of Water and Wastewater Rates Dashboards” under the Resources Tab, and click on any state in blue to view its dashboard.



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[🏠 > MAP OF WATER AND WASTEWATER RATES DASHBOARDS](#)

Resource Library

E-Learning Modules

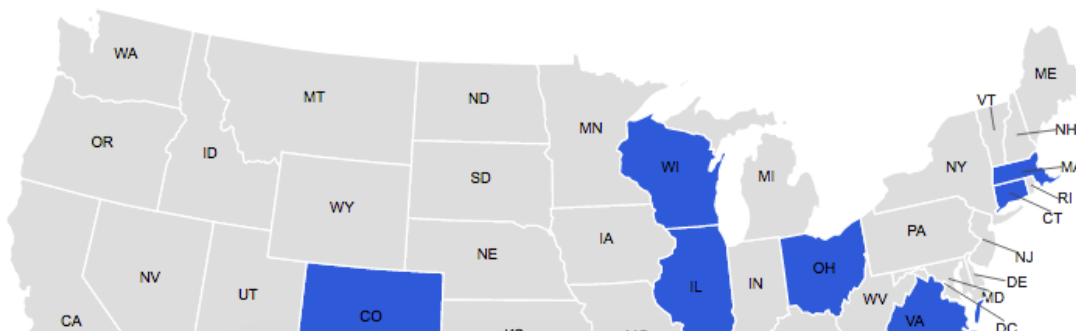
Funding Sources by State

Map of Water and Wastewater Rates Dashboards

## Map of Water and Wastewater

This map shows Water and Wastewater Rates Dashboards created by the EFCN:

Click a state in blue to view its dashboard



# E-Learning Modules

Select “E-Learning Modules” under the Resources Tab off the EFCN homepage.



As part of its continued effort to provide resources and training to small water systems, the Environmental Finance Network is creating E-Learning modules on finance and management topics for system managers.

E-Learning modules provide training through pre-recorded content. You will be able to access the content, watch presentations, complete quizzes and exercises, and access tools and resources at your own pace.

## Financial Sustainability for Small Systems

[Click Here to Access the Course on AWWA's website](#)


This eLearning course is made possible through a USEPA grant for small systems training in conjunction with the EFCN's training partner, AWWA.

# 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.”

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

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environmental finance center network

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Blog




**Magdalena, New Mexico: A Success Story from the Smart Management for Small Water Systems Project**

Written by: Allison Perch Allison Perch is a Program Coordinator with the Environmental Finance Center at the University of North Carolina. What can a small town do when the financial health of its water system is at risk? This is the question that Stephanie Finch, the town clerk and treasurer for the ...



**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 the University of North Carolina. How can small (and large) water systems pay for energy efficiency and renewable energy, helping cut utility costs? As energy is often the largest variable expense in a water system's operating ...



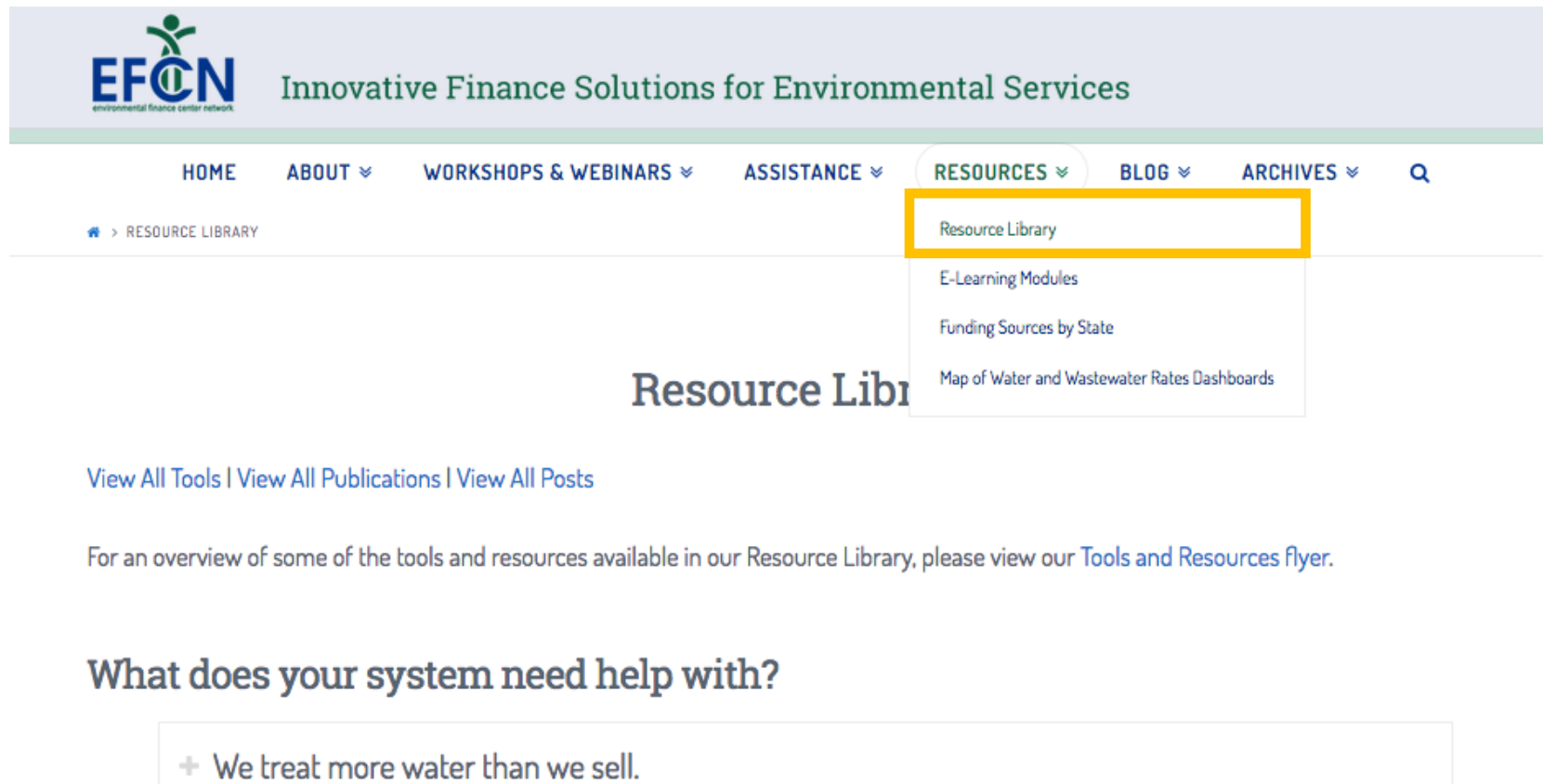
**Smart Management for Small Water Systems Program Newsletter | Fall 2015**

View Full Issue The Environmental Finance Center Network has published the third issue in a series of quarterly newsletters. The Fall 2015 Program Newsletter announces



# Resource Library

Select “Resource Library” under the Resources Tab off the EFCN homepage.



The screenshot shows the EFCN homepage with a blue header. The EFCN logo is on the left, and the tagline "Innovative Finance Solutions for Environmental Services" is on the right. Below the header is a navigation bar with links: HOME, ABOUT, WORKSHOPS & WEBINARS, ASSISTANCE, RESOURCES, BLOG, and ARCHIVES. The RESOURCES link is highlighted with a yellow box, and its dropdown menu is open, showing "Resource Library" as the first option, also highlighted with a yellow box. Below the navigation bar, the breadcrumb "HOME > RESOURCE LIBRARY" is visible. The main heading "Resource Library" is displayed in a large, bold font. Below this heading are three links: "View All Tools", "View All Publications", and "View All Posts". A paragraph of text follows: "For an overview of some of the tools and resources available in our Resource Library, please view our [Tools and Resources flyer](#)." Below this is a section titled "What does your system need help with?" with a list item: "+ We treat more water than we sell."

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HOME > RESOURCE LIBRARY

## Resource Library

[View All Tools](#) | [View All Publications](#) | [View All Posts](#)

For an overview of some of the tools and resources available in our Resource Library, please view our [Tools and Resources flyer](#).

### What does your system need help with?

- + We treat more water than we sell.



# Resource Library Continued...

Click on a what your system needs help with to reveal tools and publications related to that topic.

✖ We have insufficient revenue to cover our costs.

## Tools

February 16, 2017

[Online Water Rate Checkup Tool](#)

February 17, 2016

[Water Utility Customer Assistance Program Cost Estimation Tool](#)

September 3, 2014

[Water & Wastewater Residential Rates Affordability Assessment Tool](#)

December 18, 2012

[Plan to Pay: Scenarios to Fund your C.I.P.](#)

November 15, 2012

[Dashboard for Using Capital Reserve Fund to Avoid Rate Shock](#)

November 7, 2016

[Modelo de Análisis para las Tarifas de Agua y Aguas Residuale](#)

January 26, 2016

[Financial Health Checkup for Water Utilities](#)

August 15, 2013

[Rates and Financial Benchmarking Dashboards](#)

November 20, 2012

[Water & Wastewater Rates Analysis Model](#)

November 4, 2012

[Loan Analysis Tool](#)

## Publications

April 14, 2014

[Rural and Small Systems Guidebook to Sustainable Utility Management](#)

August 29, 2013

[Asset Management: A Handbook for Small Water Systems](#)

August 29, 2013

[Setting Small Drinking Water System Rates for a Sustainable Future](#)

August 27, 2013

[Designing Rate Structures that Support Your Objectives](#)



Smart Management for  
Small Water Systems

# Thank you.

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